

Grow, Thrive, Be

Building Healthy Communities and Preserving Culture
through Designing Children's Outdoor Play

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Grow, Thrive, Be:
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and Preserving Culture Through
Designing Children's Outdoor Play

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Abstract

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Designing Children's Outdoor Play

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New Zealand is a unique island nation with a history of European colonization overlaying earlier Polynesian settlement which results in unprecedented cultural challenges and opportunities. Confronting issues of urbanization, and more specifically questions surrounding city rebuilding following the devastating February 2011 earthquake in Christchurch, the questions of how design can support and facilitate development of healthy communities make the study of New Zealand particularly relevant with regard to design fields and professions. This study looks at the influence and relevance of children's outdoor play environments in Māori language immersion early childhood education (ECE) centers and how they may contribute towards larger-scale community health, well-being and development. In addition, this study is an in-depth exploration of how particular outdoor play environments may function as approaches for cultural preservation within Māori communities. As an explorative study, my main objective is to understand how the design of a Māori immersion early childhood education (ECE) outdoor play environment can contribute towards building a healthy community.

"In every culture, childhood is a special time.

It is perhaps the most powerful period of our lives.

Our experiences form the foundation of what we become, the core of our being--our ability to learn, our sense of ourselves in relation to the world of nature, of people, of things.

It is a time for powerful experiences that forever fuel the scientist, the poet, the artist, and the imagination within us.

It is a time that most of us draw on forever for moments of warmth and security."

(Greenman, 1998, p. 5)

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Mom, thank you for your encouragement to pursue my dreams and passions. It has brought me here and I cannot wait to see where it takes me.

Iain and Julie, thank you for the lemonade, coffees, rhubarb cakes, laughs and extra pairs of eyes throughout this journey. Your guidance and support is immeasurable and the confidence you've instilled will motivate me to continue seeking to believe I can one day become an expert.

Aotearoa (New Zealand), thank you for welcoming and supporting my project with the kindness of your communities.

Hawai'i, this project is a love letter inspired by you. Mahalo for letting me grow up under your sunshine, beneath your mountains and in your water.



All photos, layout, hand drawings, sketches, doodles, and the like, done by Angelica.

WHAT IS THIS ALL ABOUT?

New Zealand is a unique island nation with a history of European colonization overlaying earlier Polynesian settlement which results in unprecedented cultural challenges and opportunities. Confronting issues of urbanization, and more specifically questions surrounding city rebuilding following the devastating February 2011 earthquake in Christchurch, the questions of how design can support and facilitate development of healthy communities make the study of New Zealand particularly relevant with regard to design fields and professions.

This study looks at the influence and relevance of children's outdoor play environments in Māori language immersion early childhood education (ECE) centers and how they may contribute towards larger-scale community health, well-being and development. In addition, this study is an in-depth exploration of how particular outdoor play environments may function as approaches for cultural preservation within Māori communities. As an explorative study, my main objective is to understand *how the design of a Māori immersion early childhood education (ECE) outdoor play environment can contribute towards building a healthy community.*

Two assumptions underlie this study. The first is that the preservation and transmission of culture-based traditional relationships to nature significantly contribute to overall individual and community based health, and second, the enculturation of these traditional relationships to nature must begin in the early, most formative stages of life, particularly young children up to the age of five-years-old. This is my reason for selecting children's outdoor play environments as the locations for my study.

The study concentrates on natural elements in play environments and programmed and unprogrammed activities and events that are centered upon introducing and exposing young children to natural environments and Māori cultural traditions.

A PLACE TO COME FROM

"To know who you are, you have to have a place to come from."

Carson McCullers

(Carson McCullers as cited by Basso, 1996, p. 30)

Realizing that the place I come from, Hawai'i, was changing in unprecedented ways, made me want to learn more about these changes and develop thoughtful and creative solutions to apply towards preserving the places I cherish.

These changes are physically manifested - the new sky tower hotel developments, highways through the mountains and elevated rail lines but underlying these are more profound and subtle changes: changes in the way that the *aina* (land) is viewed. Land has become idolized for its monetary value in place of its cultural and spiritual value.

When I close my eyes and think about the potential of the *aina* eventually becoming lost in developments, I retreat and find comfort in the memories of being young and feeling so small in a turquoise ocean of endless joy. I realized the more that I recalled where my fondest memories of childhood took place, the more I realized they were always either in *water* or on *land*.

Opening my eyes to take one last glimpse around to see if anyone will notice my absence, I take a deep breath in, and reunite with the memory of being five-years-old and experiencing the moment when I met my first love, the ocean.



A day of rough currents and I was swept under, legs and arms pulled under beneath a blanket of turquoise. Those three seconds, I will always remember, they were quiet and chimed the faintest twinkling of water as it moved all around me. It was an eternally brief moment when I realized the ocean was both powerful and beautiful. As I grasped for a breath of air, I reached the surface of the water.

Another breath and I return to this moment and realize it was those early experiences of being in and exploring the ocean of the natural world that provided me with such joy, delight, marvel and wonder.

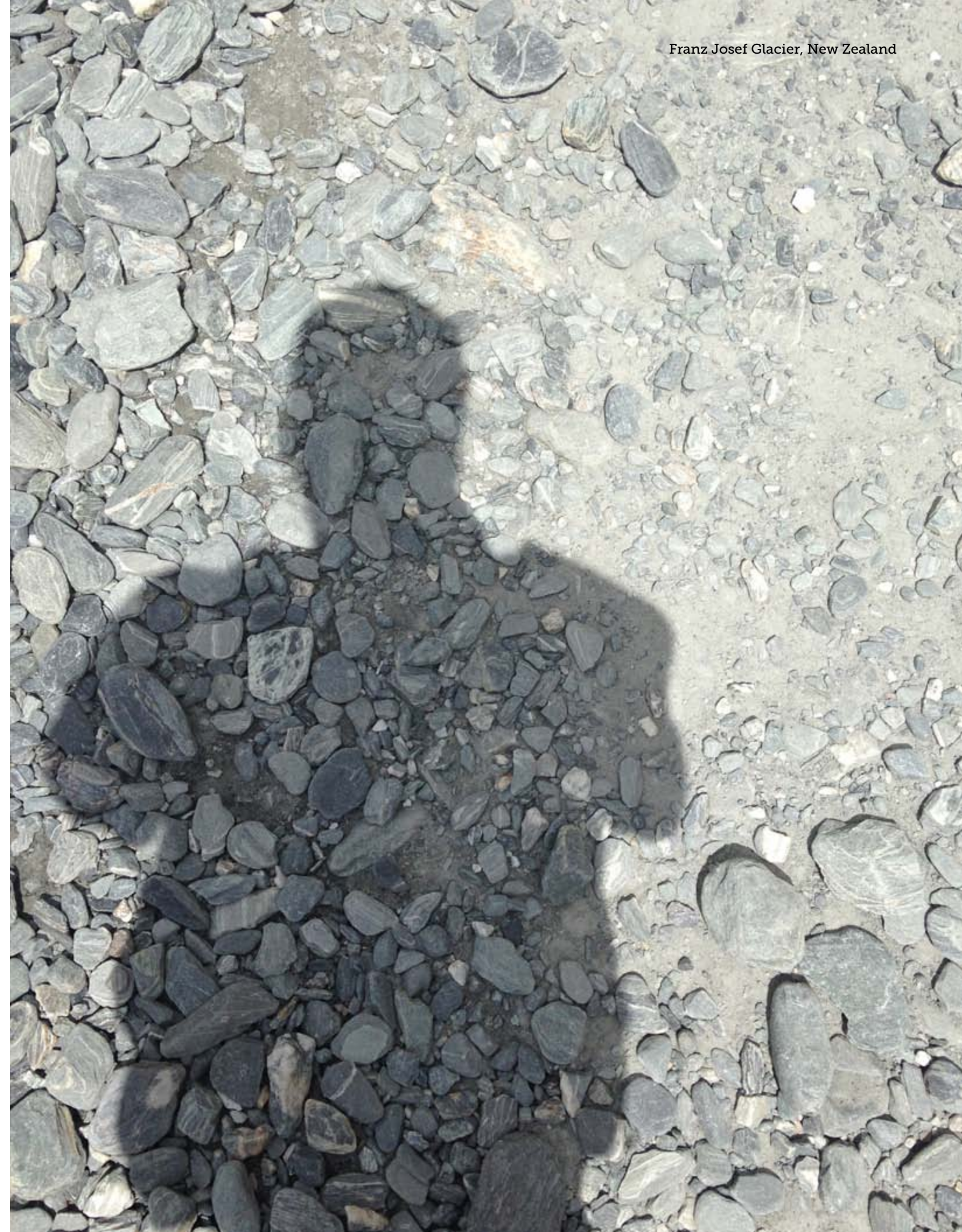
It was having those early and sensory encounters with water that initiated a story of a love and desire to care for them in my later adult life. But more so, being able to connect with them using all of my sense is the source from which I attribute my desire and passion for preserving these places.



My personal experiences fostered a connection and attitude of care and wonder with the natural environment through direct play and interaction. This reflects the idea of using traditional or indigenous knowledge to educate important cultural values and to provide cues for how to behave and learn in natural environments. Growing up in Hawai'i, I've always felt a connection and attachment to Polynesian culture and traditions. My journey and travels in New Zealand have opened my eyes to understanding these intricacies, parallels and alternative world views in ways and shapes I had never glimpsed.

When I think about young children today, not only in Hawai'i but throughout the world in places that retain strong influences and connections to their indigenous cultural history and nature-based world views, I wonder how they connect to water and land and how they learn to form these connections. How do these children know who they are and where they come from? How do they understand their relationship to water, land and the stories of their ancestors? How are their world views being shaped by the dynamism of our globalizing environment? And, as their caretakers, are we providing them with healthy environments in which to learn, grow, thrive and be?

I desired to set out on a journey, a journey that serendipitously brought me to New Zealand. I discovered a dynamic place that felt like home because of shared Polynesian-influenced world views of deep connections to water and land. I also discovered a place where my empathy could be a catalyst to explore the confluence of my interests in Anthropology and Landscape Architecture and, all the while, begin to finally write my story.



LAND, WATER, IDENTITY

My exploration of Māori immersion early childhood education outdoor play environments embodies many threads of understanding and knowledge.

The most important thread, and the one from which all others are placed and interwoven is the Māori world view and relationship to the natural world.

Those, like myself, who grew up in or are familiar with Polynesian culture are likely to experience a sentiment of understanding and shared empathy with Māori culture and world view. For those who may be examining this particular worldview for the first time, an integral part of understanding the Māori cultural logic and community practices may be developed through an awareness and appreciation for their spiritual reverence for the natural world and its elements. The way in which Māori communities have come to understand who they are in the present is derived from the sharing of stories of their ancestral history--where they came from. One of the most treasured and pivotal stories is shared with all *tamariki* (children) from a young age. It is the story of how

the world began and was created by *Papatuanuku*, Mother Earth (Tauwhare, 2014).

A critical underpinning of the Māori world view and epistemological approach to education is the strong connection between land, water, the self and larger communities. The deep spiritual reverence for the natural environment, practiced by individuals and communities alike, is a basis for all elements, aspects and patterns of social interactions and traditions in and of the land.

Māori society's world view of reverence for and symbiotic relationship with nature has also influenced Māori approaches to educating young children.

From the moment that a child is birthed, traditions are invoked. The infant's *whenua* (placenta) is delicately placed into the *whenua* (earth) as a symbolic and active effort to begin fostering a connection between the child and land. This also symbolizes cyclical relationships with the natural environment, traditions that personifies a link between the past and present. These attitudes of reverence for the natural environment, land and *Papatuanuku* are important cornerstones for caring for and educating *tamariki* in Māori world views (Tauwhare, 2014).

Understanding these fundamental beliefs and attitudes is critical to understanding the Māori world view and how these shared beliefs form strong relationships in Māori communities which directly influence community health and approaches to educating children. For designers, understanding and considering cultural impacts

and histories of the communities they work with is (of great importance and value and can ensure) essential to ensuring thoughtful approaches to design.

SAVING THE "LAST CHILD IN THE WOODS?"

(Louv, 2005)

In October 2013, I read Richard Louv's, *Last Child in the Woods, Saving our Children from Nature-Deficit Disorder*. It opened my eyes to the reality that children of this generation are spending less time outdoors in the natural world. Louv describes this lack of physical contact with nature that children are experiencing as a disorder, "where the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illness. The disorder can be detected in individuals, families and communities. Nature deficit can even change human behavior in cities, which could ultimately affect their design, since long-standing studies show a relationship between absence, or inaccessibility of parks and open space with high crime rates, depression and other urban maladies. ...The research focuses not so much on what is lost when nature fades but on what is gained in the presence of the natural world" (Louv, 2005, p. 34).

The immediate and long term consequences of this disorder reach beyond those that are manifested physically; as Louv describes,

"the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illness..."

(Louv, 2005, p. 34)

they include cognitive, social and emotional disorders. An additional dimension is the impact that 'nature-deficit disorder' may have on communities: How does nature-deficit disorder experienced by children impact the overall health of their communities?

Considering the severity and reality of this issue, I thought about the long term impacts of children experiencing a 'deficit of nature' and I thought about how so many of my childhood memories took place? in the outdoors, in contact with the natural world. I could not imagine children, particularly young children, from infancy

until preschool age, experiencing little or no contact with nature. Research from across the spectrum of pediatric health indicates that the first five years of life significantly impact children's overall development. During these five critical years children develop cognitive and motor skills, and begin to formulate attitudes and patterns of behavior that they carry into adulthood. (Ginsburg, 2006, p. 182).

This idea, intrigue and concern for the well-being of children began to take solid form and shape in me and I began to think about the potential consequences of 'nature-deficit disorder':

children's development could potentially suffer from the lack of physical contact with the natural world; and when children no longer understand and know the places they come from this could impact cultural health and identity.

These questions about the intersections between children's overall health, their development and their experiences in the natural world began to crystalize into a larger understanding. I realized that I had to develop a deeper understanding of how children at this particular age group learn and develop. The answer was through play.

What do young children spend the majority of their time doing? Engaging in play. There is a strong consensus across many fields that children develop and learn through the medium of play (Ginsburg, 2006, p. 180). As a result the logic of examining outdoor play areas to understand how children learn and develop soon fell into place. Examining children's outdoor play areas is not a new venture or area of research, in fact, there is an extensive literature on the value of outdoor play particularly as it impacts a child's overall

developmental health. However, exploring how outdoor play can contribute towards young children's ability to develop cultural competency, identity and pride is a far less studied area.

how would children know who they are and where they come from in a world where they are no longer in contact with the natural environment?

Putting on a designer's hat, an important clarification is that outdoor play environments are not simply spaces where children take a break from indoor formal instruction, but are highly engaged and dynamic learning environments. They allow for children's development and learning through play and provide a unique form of cultural preservation that contributes

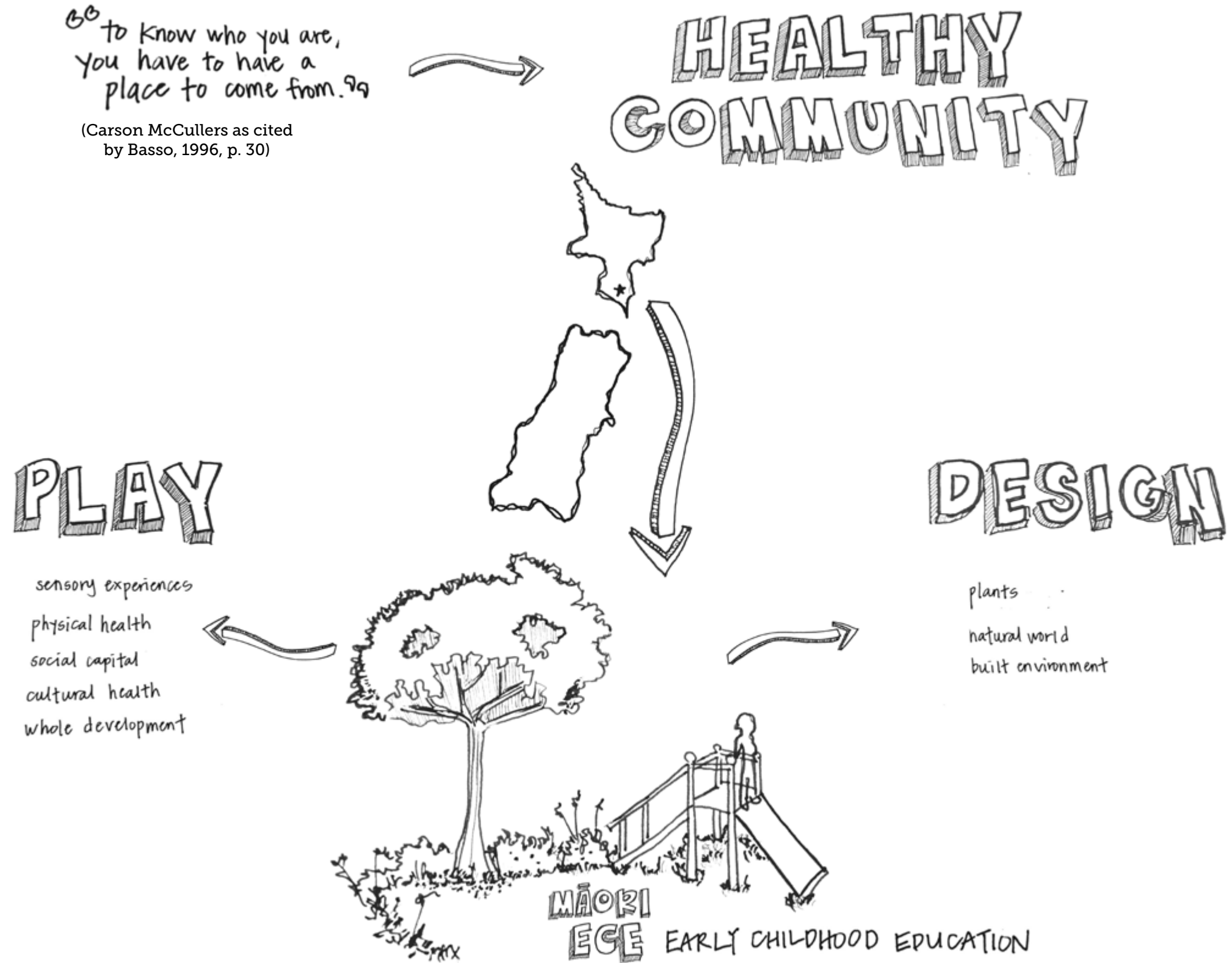
to larger community health. Understanding (and imagining) the particular components of outdoor play spaces as lenses and vehicles through which to examine community health is a unique way to imagine how design and landscape architecture thinking can be applied to other disciplines and projects.

I was curious to learn how intentionally-designed outdoor play environments for young children can provide opportunities for play that promote whole-development of the body, mind, spirit and heart and also

how play areas could facilitate the development of children's attachment to place and cultural identity. Louv references Robin Moore's idea that "children live through their senses. Sensory experiences link the child's exterior world with their interior, hidden, affective world," (Robin Moore as cited by Louv, 2005, p. 65) I began to consider how children could use sensory experiences and interactions in the natural world as ways to cultivate and discover their cultural identity.

These ideas were latent when I began my journeys in New Zealand. These journeys provided a unique opportunity to explore these questions and the intersections between cultural identity, place attachment and outdoor play through the lens of Māori immersion early childhood education (ECE) outdoor play environments. Examining Maori ECE in New Zealand increased my awareness of and insight into the value of bilingual ECE and the critical opportunities young children are provided. These include acquiring education, learning and developmental experiences in the native language of the place where they live. These particular ECE, especially through their outdoor play area environments, help young children connect to their cultural identity and history in their early and formative years.

One may ask, why does it matter that young children discover and learn about their cultural identity? Based on their rich world view and cultural beliefs Māori answer this question saying that, in order to know where you are going, you have to know where you came from. Having individual children develop an understanding of their cultural history contributes to larger scale community understanding and health. In thinking about the future, within a healthy community of individuals, perhaps the chances of finding a solution to address 'nature-deficit disorder' can potentially be explored.



HIS

Steven Eldred-Grigg presents an overview of the history of New Zealand with having six periods of significant development and growth that provide context for its modern day understanding (Grigg, 2011, p. 7-70).

DISCOVERY

Two main islands covered in wild, lush and damp forests served as sacred homes to kiwi, weka and moa. Coastal, crystalline waters were bountiful with seals and whales. Not a single human footprint could be found on land, until the arrival of Polynesians (Grigg, 2011, p. 7-12).

1200

VILLAGES

Polynesian settlers from Eastern Polynesia continued to settle on the islands, taking advantage of the pristine natural wealth and bounty of the two islands, they brought with them food and animals to make their new found land a home (Grigg, 2011, p. 12-20).

1500

TORY

1750

EUROPEANS

French and British explorers arrived on the settled lands to be in wonder and awe of the lives of 'classic Maori' in addition to their wealth in natural resources, particularly that of the sea, oils from whales and the furs from seals. With initial contact, the interaction between Europeans and Maori were that of intrigue and amicability, but soon, exploitation would change the course of history (Grigg, 2011, p. 20-30).

HĪTORI

COLONY

The arrival of European explorers also brought new thoughts about how the land and sea should be used in addition to the introduction of new relationships, diseases and warfare, all which would confront each other and result in drastic change in power dynamics (Grigg, 2011, p. 30-50).

1840

TREATY OF WAITANGI (1840)

A pivotal moment in the history of the development of New Zealand and its indigenous group, the treaty was a formal recognition of Māori ownership of their land and established the British as a governing entity (Grigg, 2011, p. 60-65).

DOMINION

After years of war and conflict, the British established their formal colonization of New Zealand and under their influence began to develop the once pristine, untainted forests in addition to changing the social dynamics of Māori settlement and life (Grigg, 2011, p. 50-55).

1900

SUBURBS

During this period, the development of modern life continued to expand marking a new century of increased population and the introduction of other Polynesian arrivals from Samoa and the Cook Islands (Grigg, 2011, p. 55-60).

1950

MAORI CULTURAL RENAISSANCE

In the 1970s, Paul Moon describes “a rebirth of Maori identity for the modern age,” (Moon, 2013, p. 120) would initiate a larger movement of envisioning a New Zealand that was fully aware of its significant cultural history. The pinnacle of this renaissance era was the grassroots effort to inject life into the practice and teaching of *Te Reo Maori* (Maori language). The creation of Kōhanga Reo (language nests) as places where young children would learn and speak Te Reo would later prove to become instrumental in the conservation and preservation of Maori culture and identity (Moon, 2013, p. 123).

The Te Kōhanga Reo National Trust records that by 1985, 416 Kōhanga Reo were established and by 1996, 765 Kōhanga Reo were in operation setting a new record and hope for the future of young Maori generations (Te Kōhanga Reo National Trust, 2013).

PRESERVING CULTURE THROUGH EARLY LEARNING

The New Zealand Ministry of Education recognizes the value of early childhood education and the benefits it yields beyond a child's development

and learning. "Research shows that children who are involved in quality early childhood education (ECE) benefit in many ways and these benefits also extend to their whānau and wider community" (New Zealand Ministry of Education, 2014). Exploring the varying opportunities and options parents have regarding ECE, it becomes clear that there is a strong linkage between children, families and community health based in the value of education.

Under the Ministry of Education's branch of ECE options for families, there are two options.

One option is 'teacher-led' which is defined by having 50% of the adults who educate and care for the children being qualified and registered as ECE teachers. Examples of these 'teacher-led' programs include: kindergartens, education & care services and home-based education & care centers.

The second option is 'parent-led' which

involves parents, family members or primary caregivers educating and caring for children in established centers. The Ministry of Education notes in particular that 'parent-led' that "[ECE]

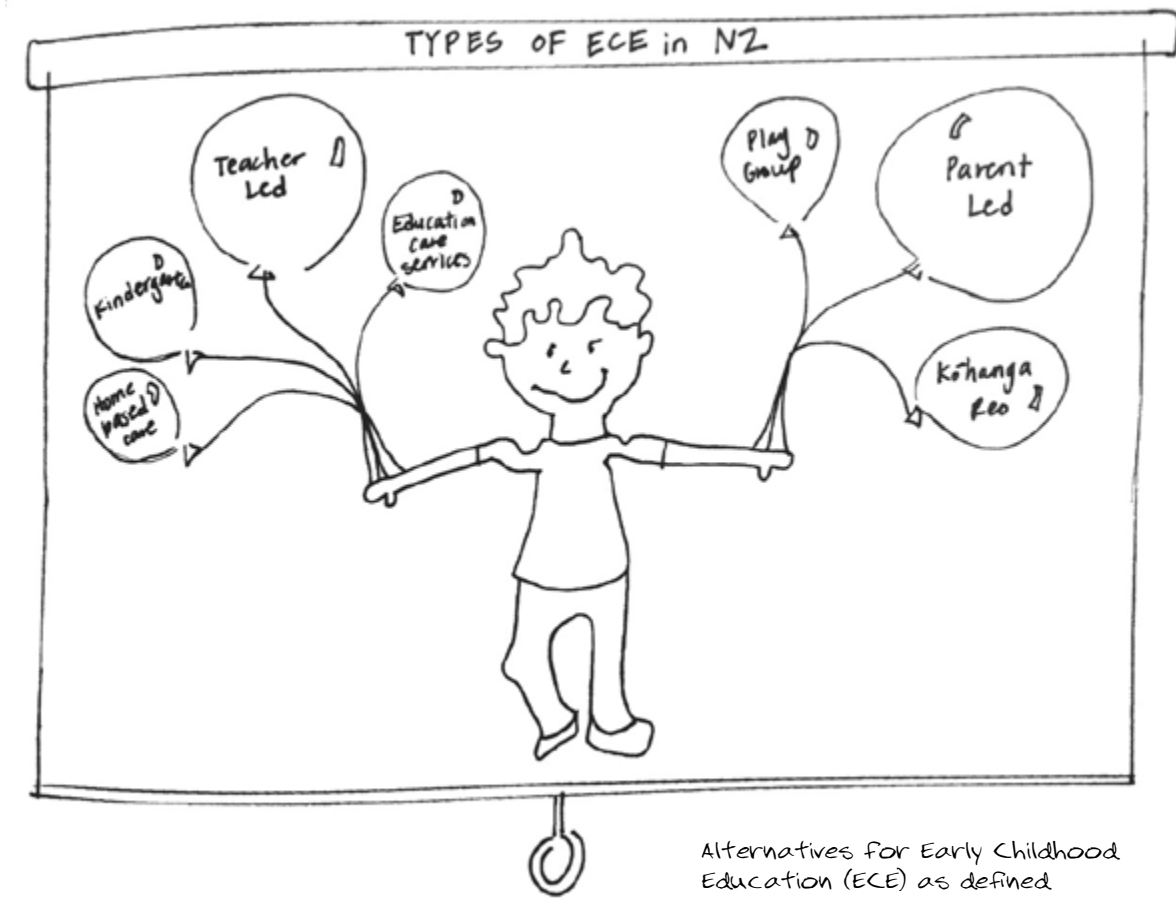
"Children who are involved in quality childhood education benefit in many ways and these benefits also extend to their whānau (family) and whānau community."

(New Zealand Ministry of Education, 2014).

services recognize the importance of parent training and involvement...families/whānau have the opportunity to learn more about parenting as well as develop social networks and build greater confidence."(Ministry of Education) Examples of these parent-led ECE programs include: play centers, play groups and Kōhanga Reo. In comparing these two options for ECE, a noticeable distinction is the foundational component of family social

networks as the primary source of education and enrichment for young children, which has strong implications for the development of larger-scale healthy communities (New Zealand Ministry of Education, 2014).

While the options for ECE vary, the overarching goal is to ensure that quality care for young children will positively contribute and promote development in these areas. The critical take away from what early childhood education offers children, beyond the acknowledged



Alternatives for Early Childhood Education (ECE) as defined by the Ministry of Education in New Zealand (2014)

educational and socializing benefits, is the opportunity to from an early age, develop meaningful connections, relationships and positive experiential encounters with the natural world form the capacity to understand the landscape in which they grew up in. In terms of child development during these early formative years, researchers identify four areas that are collectively identified as 'whole-child developmental areas. They are: cognitive, social, spiritual and physical (Ginsburg, 2006, p. 180).

During these formative years, children begin to develop the practice and skill of making connections and understanding the causal relationships between objects and even emotions. Whether through imaginative play

in a dense thicket of trees, the cool touch of splashing of water, or the smell of basil from the garden as its leaves are gently torn, *these sensory-based activities form the basis through which children make connections between elements in the natural and human world.*

Through these encounters with the natural environment, often through the medium of play, children can begin to develop the processing skills of decoding the connections of how soil in the ground provides life for the tree that has leaves that shake and rattle in the wind. This skill of making connections and developing meaningful connections is one that has the power to be influential in their development into adulthood.

Particularly looking at ECE opportunities that place a focus on providing education and care in a setting where Māori language is the primary method of instruction, students not only gain the benefits of mainstream, English-based ECE, but they are introduced to native trees and birds through song, stories, drawings and games.

Through these activities children in develop the abilities to describe the environment they live in, in the native language of their ancestors that yields multiple benefits, including but not limited to fluency in the language, *tikanga*, but also a long-term benefit is the fostering of attitudes of care and stewardship for their environment because of the cultural relevance and importance

it plays in the developing their identity. The experiences young *tamariki* have in Māori language based ECE arguably establishes a solid framework through which they can begin to develop attitudes of care and stewardship for the natural environment, that also can be inferred to contribute towards building an overall healthy community--*sharing in the same language and understanding*. And that is the goal of this project, to begin to find the connections between one interpretations of a healthy community here in New Zealand and how children and outdoor play environments contribute to it.

Under the category of 'parent-led' ECE options, Kōhanga Reo are of particular relevance and distinction as an ECE opportunity. As one of the greatest developments from the Māori Cultural

Renaissance, the development of Te Kōhanga Reo, a Māori initiative "aimed to maintain and strengthen Māori language philosophies within a cultural framework inspired Māori elders,"¹². provides education and care to children from infants to primary school age, predominantly in *te reo Māori*. The immediate benefits of this

specific ECE opportunity include children becoming fluent in *te reo Māori* which prepares them for entry into *Kura Kaupapa* and knowledgeable about the distinct Māori worldview and *tikanga*. In addition to this immediate benefits, one of the most invaluable longterm benefits of a child's participation in Kōhanga Reo include developing their confidence and sensitivity in developing their cultural identity and gaining an understanding and awareness of where they

came from.

An overview of the development of the Kōhanga Reo movement demonstrates a "grassroots" effort to protect and preserve the survival and perpetuation of the Māori language, following European colonization and development. Translated as "language nest" the idea of the organization of Kōhanga Reo was that it would bring together local families with small children gather with the *tupuna* that spoke Māori and that by having the children immersed with the language, would be one effort, to keep their language and culture alive in the face of changes brought upon by colonization (Te Kōhanga Reo National Trust, 2013).

The first Kōhanga Reo opened in 1982, just outside of Wellington. By 1994, over 800 Kōhanga

Reo educating 14,000 *mokopuna* were established. However, In 1990, the Department of Māori Affairs transferred the governance of Kōhanga Reo to the Ministry of Education, which posed a challenge in enforcing standards, and control systems used in mainstream education sectors, predominantly because the influence of the Māori world view is not universally shared nor observed as a critical component of learning. This transition continues to have an immense impact on the organization and operation of the Kōhanga at a range of scales. With the creation of the Kōhanga Reo Trust in 1982, this has aided in how individual Kōhanga are monitored and evaluated nationwide (Te Kōhanga Reo National Trust, 2013).

Recognizing the unique opportunities that Kōhanga Reo offer as an ECE option, particularly with their foundational goal in educating children in and through the Māori worldview, is the reason for selecting them as one specific ECE to consider in this study.

For this project, two ECE programs, one from a teacher-led, Noku Te Ao and the one from a parent-led, Kōhanga Reo, Motu Kairangi, were selected to visit and observe how the design of their respective outdoor play environments contribute to developing larger-scale community health.

When I started this project, I was aware that there were different parts that I needed to find a pattern that could link and connect them all together. I knew that part of making these

connections between healthy communities, Māori world view and cultural history and children's outdoor play environments, would require meeting and talking with individuals that were deeply committed and involved in those areas of specialty. I also wanted to seek creative ways to not only gather information

that could give form to these connections but to also do it in a manner that put humility as the foundation for all of my work.

What I did not anticipate was how the individuals that I met, through the kindness and generosity allowed me to enter into their sacred *whanau* of understanding, they allowed me as an outsider to enter into a deep understanding of the world view that plays such a critical

role in every day of their lives. These individuals and their willingness to share their stories is what has made this more than just a project, but a collection of stories and visions for the future of Aotearoa and its children.

Meeting the *kaiako* (teacher) of each school provided the invaluable opportunities to observe the unique and very special ways that *tamariki* are being introduced to their ancestral world view. As an observer and listener during these visits to the schools, I was able to foster connections with those that so warmly shared their ideas with me. I also had a chance to begin making my own connections between how these very special learning and education environments contribute towards building larger scale community health.

The experiences young tamariki have in ECE establish a framework through which they develop attitudes of care for the natural environment

When I started this project, I was aware that there were different parts that I needed to find a pattern that could link and connect them all together.



A view into one section of the existing outdoor play space

“LIVING THE REO”

(Jacobs, 2014)

“It is all about the reo,
not only teaching it,
but living it.”

(Jacobs, 2014)

It is immediate and apparent when you walk through the doors of Te Kōhanga Reo o Motu Kairangi that this not just a place for childcare; it is a home and living environment for speaking, teaching and sharing te reo Māori.

I was greeted by two young boys who were barefoot and giggling at me when I tried to figure out how to open the gate into the Kōhanga, their laughter and coy looks reminded me that I was about to enter into a world of *tamariki*, filled with laughter and the pure and simple joys of gathering together in a circle, singing *waiata*. I was an outsider, though I strangely felt as though I belonged. It was combination of meeting the welcoming teachers, their hugs were so warm and familiar, it was as if we had known each other for years and were meeting at a family reunion.

At 9:30am, Renee, my teacher friend and guide for the morning, asked if I wanted to join and

sit with her and the *tamariki* on the colorful mat for morning welcome, it was the simplest of gestures and invitations that opened up their world to me, through song and dance.

The gentle strumming of guitar chords marked familiar cues for the *tamariki* to watch Renee’s lips move with energy and enthusiasm as she guided them in a series of songs. Sitting together in a circle, all looking at one another with our eyes level and in balance, the melodies of their voices could soothe any ailment.

Their gentle singing soon turned into energetic jumping, all on command and beat, every *tamariki* could follow, even the youngest at 9 months, just barely walking on her own, bounced up and down to the beat of her fellow classmates.

The medley of *kapa haka* was filled with smiles and the love for the songs, dances filled the

The site of future natural outdoor play space design!



TO-DO

- Make space functional
- Level ground surface
- Disguise blue door to nowhere
- Plant some edibles for outdoor gardening

room with an emotion that these *tamariki*, each day in singing these songs, in the reo, became closer to understanding who they are and where they come from.

Motu Kairangi is a Kōhanga Reo based in the neighborhood of Miramar, just outside downtown Wellington. With 16 students and 6 staff, the Kōhanga is a *whanau*, a family. I was offered the incredible opportunity to visit and spend time at the Kōhanga through Chelsea Jacobs, the administrative lead teacher at the Kōhanga. Having attended Kōhanga and *Kura kaupapa* (Māori language primary school), she finds herself back at the Kōhanga, welcoming the new generation of *tamariki* to experience and learn *te reo Māori*.

What is most special to realize about this Kōhanga is that their vision and foundation for teaching their *tamariki* is to introduce them to the Māori world view and begin to cultivate an understanding of who they are based upon the history of their ancestors. It is this very strong and very emotional approach to education that distinguishes a Kōhanga environment from other types of ECE in New Zealand.

When I asked Chelsea, what is a healthy community? She noted that 'community' is not just limited to the Kōhanga but that it extends beyond to the *Kura* (Māori primary school) and their neighborhood. This strong value of community extending beyond

the immediate walls of the classroom gives an indication that these schools create opportunities to build and strengthen social networks and relationships outside of the school that also share in a value of preserving the Māori world view.

I think what is important to recognize that big part of how community is described and identified here with regard Māori language based ECE is that the shared language and worldview, *te reo Māori* and their world view of having deep connections to the land are the basis for identifying who they are and where they want to go and influence other strands of community health.

SHAPING SPACE, CONNECTING TIME

Landscape Design Considerations

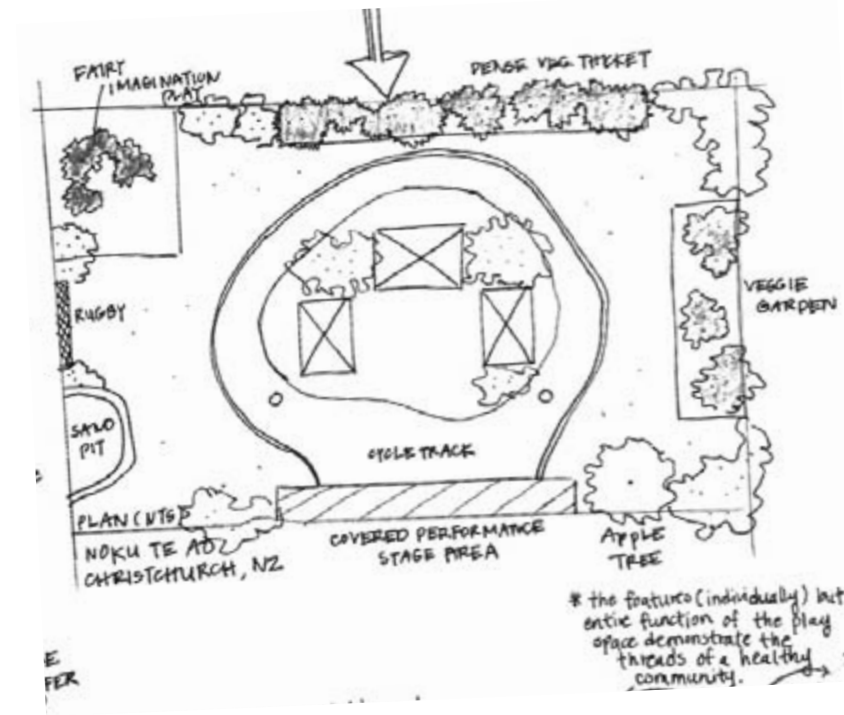
Outdoor play doesn't, and shouldn't, have to be so complex, after all nature was the original and initial designer of outdoor play.

Here, I want to share design conclusions I have drawn from the patterns and connections I have learned about Maori culture and beliefs and what I actually saw children doing in ECE facilities and play spaces. These outdoor play environments were effective places for children to develop their understanding of the Māori world view using all their senses. Through speaking te reo Māori and engaging in creative, imaginative play, they built relationships with one another, laying foundations for the development of broader community health.

My challenge was to take the information I had gathered through research and interviews and synthesize and translate it into design terms and a spatial language. The following ideas are a spatial response to the question of *how the design of a Māori language ECE can contribute towards building larger scale community health.*

Imagine you were to take a walk in a forest. Surrounding you are fallen branches of trees,

leaves gently rattling on trees, some dripping with cool drops from a rain shower passing through. Small smooth stones surrounding puddles of mud inviting a poke of your finger. This image is my understanding of the original outdoor play environment. This environment is filled with natural materials that have no universal prescribed uses. It is through the creative interaction that children have with these materials, that the purpose(s) and values of these materials are manifested. In the eyes of young children, a fallen tree branch is a magic wand, transporting them to a mystical place where the raindrops in the sky are actually made of sugar. A fallen tree branch can be a pencil that a children use to draw shapes and letters in the dirt of the ground. A fallen tree branch is their weapon, their musical instrument, their marching stick for leading the orchestra--these varied meanings and different ways of using a singular element, the fallen tree branch, illustrate the power of unlimited prescriptive uses that natural



How big should spaces be? Size matters



elements inherently have.

If the goal of Māori language based ECE is to connect children to their ancestral worldview, shouldn't their physical environment where they spend a majority of their time also reflect the actual physical environment of their ancestors?

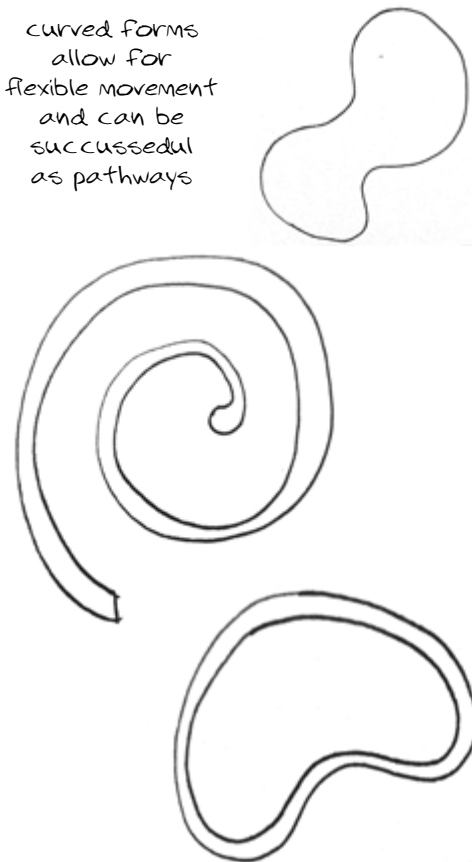
Chelsea shared with me that the simple inspiration for their Kōhanga's desire for a natural aesthetic in their outdoor play environment was that it represents where they came from [water and land]. The goal of having a more natural play area is reflective of the larger vision to connect children to the Maori worldview, as Chelsea describes, "*the natural environment with water is more like the place where we came from.*" A future phase of the Kōhanga play environment envisions a stream with a hand pump so that tamariki can play in the water; but also to recycle the water. So again this idea that the outdoor play environment is a critical component to reinforcing a tamariki's knowledge, experience and interaction with

the Māori world view but with an additional layer of environmentalism and sustainability through the recycling of water.

This is not to say that the use of non-natural materials strike a false note for outdoor play, but that they pose limits and restrictions to the endless opportunities for creative exploration and play that natural based materials provide. The value of using nature-based materials in a play environment can also be seen in how it triggers and can catalyze an excitement and wonder to promote different types of creative play.

In a sense, the variety of uses in the play environment is preceded by its physical appearance. Imagine, the light from the sun shining above high in the clouds bursts through the hanging canopies of dense trees creating a kaleidoscope pattern on a bed of fallen leaves. This bed of leaves is surrounded by a soft cushion of bushes with bright red berries protruding, inviting little hands to partake in them.

curved forms allow for flexible movement and can be successful as pathways



use ground elevations to create different experiences



plant personalities

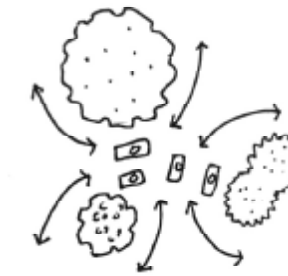


plant shapes & textures can impact the size and feel of a space



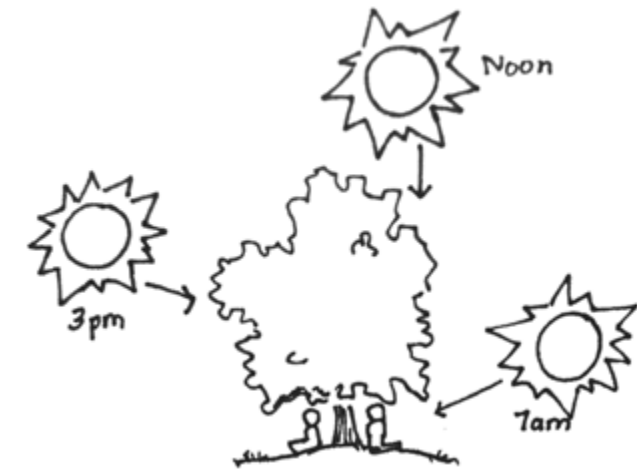
ENCLOSURE

plants can create a sense of enclosure with dense plantings, making limited access creating a quiet space



OPENNESS

plants loosely planted can provide more openings inviting more play and lively interaction



Consider trees as natural shade devices during the peak sun exposure times of the day

Form/shape

Curvilinear forms are important for ease of movement through space and represent a larger symbolic connection to the Māori world view. Curved forms and shapes, if done successfully, embody a variety of cultural symbolism and can convey deeper meanings and connections to the world view.

Size/scale

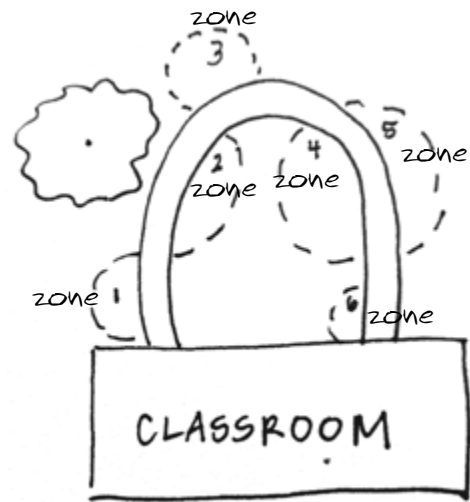
Play environments should be large enough for a child to feel like it is endless and should provide different options and opportunities for play zones. They should also be small enough for adult observation and supervision. Careful planning of plant heights and ground elevations can have a significant impact on a child's experience but still allow for adequate adult supervision.

Enclosure/openness

Spaces that are more enclosed and surrounded by trees and plants provide opportunities to sit and think. It is easy for adults to underestimate how much a child is thinking, processing and daydreaming. Providing quiet places of a size suitable for children to reflect individually. Playing with the density of plantings (and their textures) can provide cues for quiet versus more active spots to play.

Sun/shade

New Zealand's relatively warm, sunny climate offers opportunities to use outdoor play areas year round. Covered, shaded areas for children to sit and feel the cool breeze of the wind on hot days are an important health consideration.



Connecting different play zones to a singular path can provide unique opportunities for play in one space



Connectivity/ separation

In drawing design treatments of what I would do, I had a single wide path with distinct pockets of play zones connected. The singular path offers one way in, and one way out and gives comfort to children that they know that if they are in need of help or want to navigate to a separate play area, by following this path they will meet their desire. Additionally, having different zones that encourage and promote different types of play that are easily accessible is important to diversity the activity and practice of creative play.

How big should spaces be?—Size matters.

Depending on the type of play that an area is encouraging the size must respond to that accordingly. For example, for young boys with lots of energy that like to run around, an uneven ground floor, overgrown area with trees and shrubs won't encourage active running play. A solution to this is a larger in size, flat surface area with an edge enclosure to communicate the boundaries of permissible running but to also give them adequate space to expend all their energy. Maybe we should not try and squeeze more activities and spaces into a site than it can reasonably accommodate? Better fewer spaces than lots of cramped, ineffective spaces?

A (RE)NEWED "SENSE OF WONDER"

(Rachel Carson as cited by Kelsh, 2007)

Rachel Carson describes a "sense of wonder" (source) that a child has in examining the natural world and often this can be lost as a child grows and develops. For young children these moments of wonder are invaluable and are not easy to replicate in adult life. Children encounter a wondrous moment, particularly in the natural world through their senses—the sound, the touch, the smell, the taste and the sight of an environment. To appreciate the natural world requires physical engagement through sensory, experiential, cultural and social encounters with natural materials. Encounters and engagements with natural materials are entry points to connecting with the natural world, work hand in hand.

Simply put, materiality is very important at this early stage of sensory and experiential learning for children. It sets the stage for where creativity for kids can start and stimulates play and manipulation. Manipulability is equally important, the process of seeing the different ways that you can interact with a tree branch connects to the cultural history of the way ancestors once manipulated a tree branch with their hands and developed different meanings and uses offers one unique way of connecting to the worldview. And equally, it is just fun, too! *Learning is fun. Learning is exploring.*

How can designers begin to see the world

What does it mean to have and experience a sense of wonder?

How can designers work to see the world through the eyes of a child?

What does this all mean?

through the eyes of a child and communicate their findings spatially? For a young child, seeing a natural environment should most certainly be a varied, positive and engaging experience that promote and encourage endless exploration and a desire to draw deeper connections with the natural world. Why is this important? At the larger scale of considering the impacts of Louv's discussion of nature-deficit disorder encountering the natural world during the formative years of life, from infancy until age five, sets a precedent and pattern for using positive interactions with the natural environment to develop attitudes of care and stewardship for it.

So how do designers of children's outdoor experiences enter a child's world? It begins through really seeing with all senses, noticing small details, not taking implicit things for granted, such as the ways that leaves rattle in a tree canopy when wind blows. It also translates to taking the time to look up at the sky and down at your feet, to try and piece together the rhythmic movements of clouds to the crunch of leaves beneath your feet. To see the world through the eyes of a child is to walk slowly, not always in a straight line, and look all round, open and observant.

This project aimed to give design spatial considerations and responses to the

observation that outdoor play environments connect children to the Māori worldview. It shows how landscape design can create tangible opportunities and sensory experiences for children to connect to and better understand their ancestor's worldview. In the Māori worldview, relationships between individuals, groups and larger communities are fundamentally important. These relationships are based upon sharing—sharing knowledge, wisdom and language with the intent to strengthen and support each other. I was surprised to discover that the sandbox was the space that demonstrated sharing and most effectively contributed to the making and strengthening of community.

Observing children working together to fill a plastic bottle with water and taking turns pouring it into a bucket of sand, showed that they trusted each other in knowing the limit of water and that they conformed to an expectation of behavior that would not jeopardize the activity by kicking over the bucket of sand. All the while engaged in this type of play, they were communicating in te reo Māori, developing the capacity to speak and communicate in their cultural language.

The outdoor play environment fosters community building through providing opportunities for children to socialize

through play. The outdoor play area becomes an important social environment where children can begin the practice of forming their own communities, just as adults do. My personal belief is that play is the universal way of communicating for children. Since many young children in these programs are still developing their language skills, play becomes the primary medium through which they communicate and form relationships with each other. Intentional design has the power to aid in facilitating experiences that connect young children to their particular cultural world view. And this matters for three reasons:

LIGHTBULB MOMENT RIGHT HERE!



- 1) It gives children a foundation of cultural identity, knowing where they come from and who they are,
- 2) it is an effort that contributes towards larger-scale indigenous cultural preservation efforts and
- 3) trite as it may sound, children are literally and metaphorically, the future and to invest in their education and well-being through providing them rich outdoor play environment experiences is to follow in the footsteps of our own tupuna and share the language, knowledge and stories they have passed down to us.

THOUGHTS ON THE FUTURE OF PLAY DESIGN

When I first started this project, I was worried that it didn't fit into the categories of landscape architecture from describing and discussing it with others.

When I think of what a landscape architecture thesis or project should be, I immediately think of drawings, plans and sections and boards with graphics that look computer generated. But thinking about my project, my interests and passions and what I hope this project will represent, I think about myself, who I am, where I come from and how I think. Coincidentally, and quite serendipitously, those categories are not often part of the career trajectory of one aspiring to become a landscape architect.

But in reality, that is not what I want to do with my life and career. What I appreciate and value from an education and training in landscape architecture is the thought processes and frameworks of thinking about the relationships individuals and communities have with land. This perspective of seeing the world as integrated systems, symbiotically connected, is what I think this project is. It is taking a design perspective, and applying it to issues confronting our society and seeing what the impacts can be.

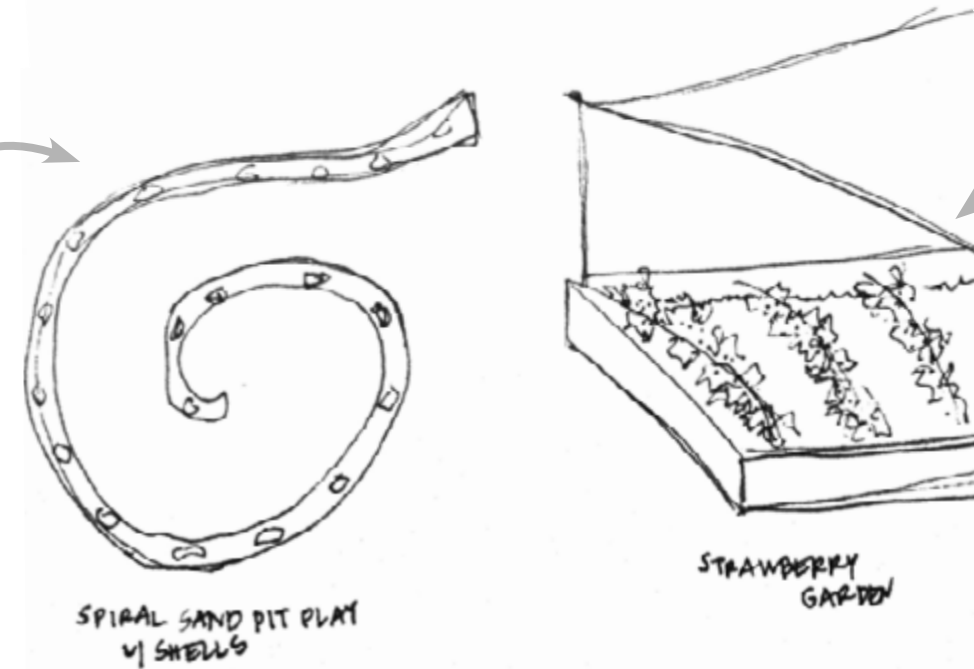
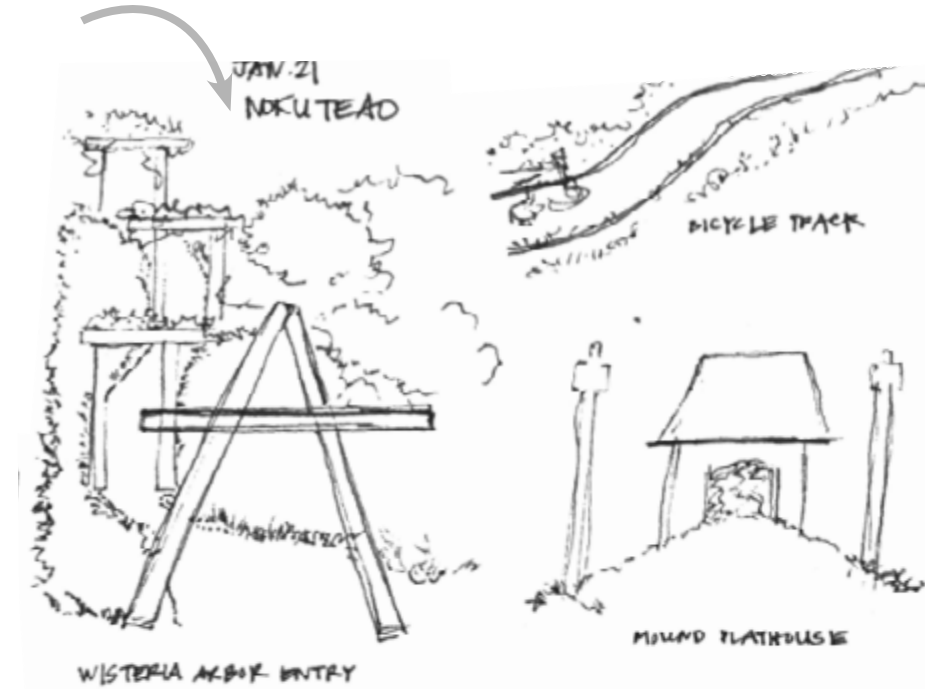
What I've attempted to achieve is taking a

distinct and particular thought process, moreover a distinct way of thinking, that a designer would use and applying it to understand a larger issue.

What is the issue? *The reality that children are spending less time outdoors exploring the natural world*, due to a plethora of issues but the heart of it is also recognizing the value of exposing young children, particularly those in age from infants to age five (which is the age that researchers have noted as being of significant impact in developing attitudes and beliefs that last into adulthood.)

But why it is important to recognize and confront this issue, thinking about my own experiences growing up, I was always outdoors or in contact, either directly or indirectly, with the natural world. Whether school art projects where we looked at different leaf shapes and sizes, learning about Native Hawaiian birds, field trips to the marsh where we dipped our fingers in the cool water, it was these interactions with the natural world that I recognize as particularly impactful in developing an interest and desire to learn more about them but also as a way of developing my cultural identity, which, now as I'm older, can attribute to the desire for a career path in working with culturally based communities facing issues of development and change.

the entrance to an outdoor play environment is really important, it gives a first impression of what to expect. using plants for their texture and smell can create an environment of ease



design forms for play structures can informally give children cues of how to play and explore

a garden is more than just a place to produce fruit and veggies, it can be an opportunity for children to feel dirt between their fingers and begin to understand where their favorite foods come from!

Personally, when I visit outdoor play environments, I now think more intentionally about the individual elements of the space and how through their physical design, use or materials, can help children gain a better understanding of their cultural heritage.

Using the work of scholars and my personal explorations in New Zealand as a launch pad, this project, was my attempt to understand the landscape design impacts of an alternative view of a healthy community-- *sharing in the same language and understanding.*

I've titled this project "Grow, Thrive, Be," based on my understanding of these words as cues or calls to action for landscape designers of children's outdoor play environments. These calls to action ask designers to consider the dynamic ways that children experience and learn through their encounters with the natural world. These experiences, in turn, have a direct impact on how children grow, thrive and become *present* in their larger communities.

What I have learned is that an outdoor play environment for young children is their entry point to their culture and larger community. As they play in the outdoor play space and with the varying elements in it, they take steps that bring them closer to knowing who they are and where they come from.



Sand play area at Motu Kairangi K hanga Reo gives children a chance to develop their fine motor and Te Reo skills

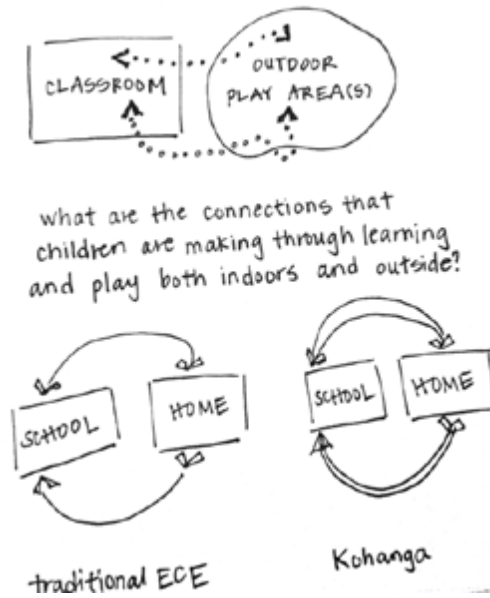
WHAT SOME SPECIAL WORDS MEAN (GLOSSARY)

kaiako	teacher
kapa haka	performance
Kōhanga	“language nest”
Kura kaupapa	Māori language primary school
tamariki	children
tē Reo	Māori language
tikanga	customs
tupuna	elder, ancestor
waiata	song
whānau	family
whenua	land
whenua	placenta

APPENDICES

PLAYING FOR HEALTH

A look at how children are developing through their imaginative acts of play before our very eyes and what it can teach us.



One of the foundational components that supports this topic and research is the knowledge and evidence that *children develop through play* and more so, that *play is one of the unique ways in which children can communicate* and begin to understand the larger intricacies and connections in the world. Historically examining the evolution of play and its connection to early childhood development, the 1989 United Nations Conventions, Rights of a Child act clearly established and attempted to make claim for a universal right that all children have the right to 'play.' This moment in history is pivotal as it recognized that every child has a right "to rest and leisure, to engage in play and recreational activities appropriate to the age and to participate freely in cultural life and the arts" (Office of the High Commissioner for Human Rights, 1989).

Authors and scholars in the field of children's outdoor environments and developmental studies mark this moment as a pivotal way in which a global consensus on how children have a right to engage in play was not only documented, but universally shared and agreed upon. In considering the role of play and its impact on child development, the first key distinction is an understanding the type and form of play that best results in optimum development, or what researchers refer to as the development of the "whole child" (Ginsburg, 2006, p. 190).

Ginsburg writes that play is essential to child development as it contributes to development in four key areas: cognitive, physical, social and emotional well-being. Other authors on the same topic of child development additionally note these categories as the components of a whole and healthy child. What is critical from Ginsburg's discussion and avocation for play as a method of early childhood development is what he refers to as *undirected play*, which is characterized by children independently learning to

work and act in group settings, negotiate, share, resolving conflicts in addition to learning self-advocacy skills (Ginsburg, 2006, p. 182-184).

Ginsburg strongly argues that when children are provided opportunities to engage in undirected play, also referred to by other authors as child-driven or creative play, a child is able to develop in all of the four aforementioned categories of development. While Ginsburg's discussion is critical in regard to the aims of this research as he represents a perspective from the medical field advocating for young children to have opportunities to engage in undirected and child-driven play for their respective development, he neglects to describe the kind of environment(s) that yield the capacity to allow for such critical undirected and child-driven play (Ginsburg, 2006, 182-187).

While acknowledging that the perspective of his work represents a medical standpoint, the

questions of what kind of play environment leads to this type of 'child-driven' play, what features and opportunities in a space encourage and facilitate 'child-driven' play arise? What are requisite features needed to allow children to engage in 'child-driven' and creative play? Particularly, how can parents assure that 'child-driven' play is within relative safety boundaries? The answers to these questions, as we will later explore, have the potential to be found in natural outdoor play environments.

Examining the work of other highly regarded specialists in the field of early childhood education and outdoor environments, Robin Moore, Director of the Natural Learning Initiative and renowned contributor to the field of children's outdoor environment design, also supports the body of work that advocates for play as a form of development. Moore's work is critically acclaimed and

PLAYING FOR HEALTH

seminal in also providing the evidence, through various extensive studies, that play in outdoor environments is where children have the capacity to learn, grow and develop, holistically.

Moore writes that in these critical stages of early childhood, children acquire “an emotional response to the physical and social world” (Moore as cited by Miller, 2005, p. 85). Moore also refers to the concept of ‘informal play’ as being highly beneficial and productive in providing children with primary and influential experiences of nature through children form values that they will carry with them through adulthood which links into the earlier discussion of the relevance of creative play and the immense benefits it can yield for young children (Moore as cited by Miller, 2005, p. 85).

Sue Elliot, author and designer,

contributes to this growing body of professional work by describes early childhood development as a critical and special time where children form connections with nature that are informative to larger creation of values and development of what she refers to as ‘an ecological self’ (Elliot, 2008, p. 5).

The idea of the development of an ‘ecological self’ is becoming exceedingly more important, particularly with regard to current global environmental issues, most notably climate change and the importance of sustainability. The key opportunity that arises is that young children, through experiences with the natural environment, as manifested through play, are able to cultivate ecological values and identities that have the potential to positively contribute to behavioral patterns that can provide solutions to addressing these global issues. The key takeaways from this discussion of how children develop through play is that by acknowledging *the power of play to be a transformative process* and that it presents unique opportunities for children to develop holistically.

Second, to critically acknowledge and understand the impacts of the benefits of outdoor play, we must *understand the types of environments that allow for this type of productive play to occur*. What are the key components of these types of play areas and how do they physically work and do children actually enjoy them? What are key considerations and parameters that are needed for future design developments for outdoor play spaces? By taking the time to better understand the physical environments that are conducive to creative play that provides opportunities for healthy development, the overall success of achieving the larger loftier goals of combatting nature-deficit disorder and providing children the opportunities to develop in a healthy manner can dramatically increase.

APPENDICES

NATURAL PLAY SPACES

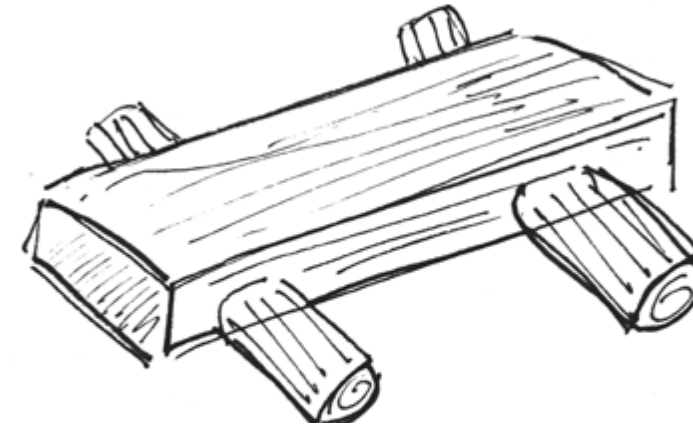
An outdoor space that is intentionally designed and integrate natural components to encourage unstructured and structured play for learning

A basic definition the Maryland Department of Land and Natural Resources uses for to describe a natural play space is: *"An outdoor space that is intentionally designed and integrate natural components to encourage unstructured and structured play for learning"* (Maryland Department of Natural Resources, 2013).

Natural play spaces derive their distinction from their components, or elements and in contrast to traditional playgrounds that feature prescriptive play structures and objects, such as a slide for the action of moving from a higher elevation to a lower elevation, *natural play spaces rely on the participants of the space to determine the function and meaning of the structures and objects in the space.*

Another key distinction between a natural play space and a conventional playground are the materials themselves. Conventional playgrounds, particularly ones designed and built in the past ten years are required to meet formalized standards of safety which are largely informed by the use of synthetic materials. Natural play spaces, while they also meet design standards, depending on the location, use materials that can be found locally or regionally and are highly distinguishable from conventional playgrounds.

Natural play spaces since are highly dependent on the materials, multiple definitions of their function and components are discussed by many authors. The unifying theme is the power that their natural elements have to cultivate rich experiences that result in a multiplicity of benefits. Greenman writes that natural outdoor play spaces allow children to foster a sense of place and create meaning from their surroundings through interaction with plants and animals. These spaces also allow for children to directly experience and learn from natural life cycles



An ordinary tree log can transform to become a racecar in a natural playground

(Greenman (1988) as cited by Elliot, 2008, p. 177).

Herrington and Studtmann focus on describing the materiality of natural play spaces as having dense vegetation, sand, stepping stones and plants that have distinct textural qualities that allow for rich sensory experiences. These elements contribute to creating what they refer to as 'vegetated rooms' or enclosed spaces for children which function as recluses for children to think (Herrington and Studtmann (1998) as cited by Elliot, 2008, p. 177).

One of the many unique attributes of natural play spaces that Vicki Stoecklin and Randy White from the Education & Child Development Center and Leisure & Learning Group, a Kansas City, MO-based firm that specializes in the design of child care centers and naturalized playgrounds, respectively, advocate for is that in reality, young children experience natural outdoor environments starkly different from how adults experience natural outdoor environments. They discuss how adults when placed in a natural outdoor environment,

they describe it as a "background" for their activities and actions. This is uniquely contrasted with how children experience nature as a "stimulator" for their activities, their experiences in and within nature are seen are directly correlated and an integral part of their experience, nature becomes their prime experience instead of merely just the settings to where they are. They also describe how children have what they call

"a way of knowing the natural world as a place of beauty, mystery, and wonder" and it is this sense of wonder that empowers and encourages them to explore and cultivate meaningful and impacting experiences that have the capacity to inform their adult life. (Stoecklin and White (1988) as cited by Elliot, 2008, p. 185).

The driving quality of a natural play space that directly impacts the development of

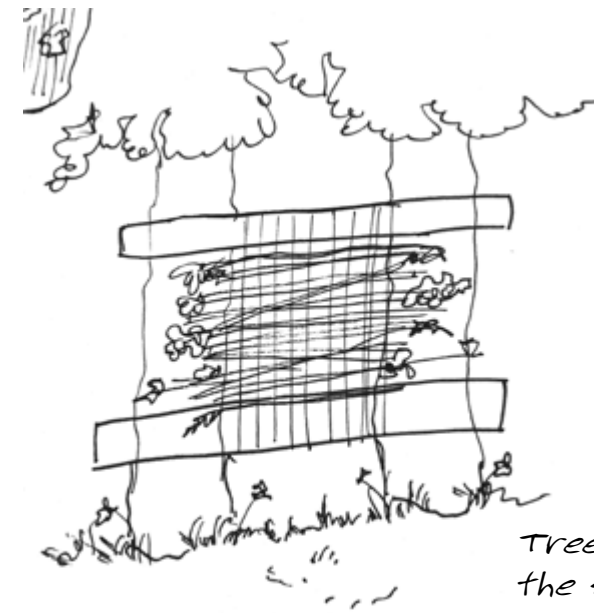
NATURAL PLAY SPACES

children's physical, social, emotional and cognitive development include what Miller refers to as 'aliveness' of the space and how with each day, new discoveries are readily available for children. These new discoveries can be found in the way that plants may change in color and smell or the development of bird, worm and butterfly habitats around flowers in the play area. This new discoveries for children are crucial for helping to develop their curiosity (Miller (1988) as cited by Elliot, 2008, p. 177). The power and appeal of a natural play space is embedded in this dynamism and ephemeral quality of a natural setting that these spaces are designed upon.

An additional key quality of natural environments for child development is their innate flexibility to adapt and change to not only the physical conditions but

human interaction as well. Miller describes the strength of natural play space in allowing children to direct and control the manipulation of the space, whether it be through collecting twigs and arranging them in groups and patterns of playing in the sand having first hand observations of causal relationships with different tools to directly engage and manipulate the sand. This concept of direct manipulation of and within a space is what Miller attributes to children becoming aware of their roles in places and who they are (Miller (1988) as cited by Elliot, 2008, p. 177).

The main theory supporting the function of natural play spaces is Simon Nicholson's 'loose parts' theory which proposes that play should consist of loose parts. These 'loose parts' are open ended objects that rely on a child to derive its meaning and function and highly contribute towards fostering creativity and development (Nicholson, 1971). In a natural play environment, these 'loose parts' can manifest in the form of: trees, water, bushes, flowers, grasses, bugs, simple structures, etc. and allow children to



Trees can become the supports for a larger-than-life nature-loom

use it in limitless ways. "In any environment, the degree of inventiveness and creativity are directly proportional to the number and kind of variables in it (Nicholson, 1971, p. 2)".

Nicholson argues that the more loose and unstructured the parts, the more potential for imaginative explorations and discoveries increases. The 'loose parts' theory also address critical questions concerning how design can be authentically accomplished. Nicholson writes, "the whole idea of loose parts raises some fundamental questions about the way we design things; if you are an inventor or designer yourself, what parts or proportion of an environment-or components for an environment can you legitimately invent yourself and how much for example can children or adults invent? (Nicholson, 1971, p. 2)".

The key characteristics of loose parts theory is the concept of manipulation. Stoecklin and White describe in particular natural elements such as plants, soil, water and sand has providing

rich opportunities for "open-ended play that emphasizes unstructured creative exploration with diverse materials. The high levels of complexity and variety nature inherently offers in its properties invites longer and more complex play which stimulates discovery and provides opportunities to develop key motor skills (Stoecklin and White (1988) as cited by Elliot, 2008, p. 185).

Herrington and Studtman also conducted important research that advocates for the value of natural play spaces by providing evidence on how landscape based play spaces significantly promoted and increased learning in young children in the categories of physical, social, cognitive and emotional development in contrast to traditional equipment and synthetic based play spaces. This documented research is critical in providing evidence and support for the

NATURAL PLAY SPACES

use of landscape and natural materials in children's outdoor environments as direct linkages that support over all development. One long term impact of natural play spaces with children is the potential that direct experiences in them offer to help children understand their place in the world (Moore as cited by Miller, 2005, p. 85). Sobel writes that "If we allow people to shape their own small worlds during childhood, then they will grow up knowing and feeling they can participate in shaping the big world tomorrow (Sobel (1990) as cited by Elliot, 2008, p. 177)."

Through exposing children to natural environments at a young age when their development is progressing provides an opportunity for children to develop positive experiences that they will, ideally, carry on with them through adulthood.

Robin Moore, a strong advocate for natural play outdoors, writes:

Natural settings stimulate all aspects and stages of child development through multi-sensory experience. They integrate informal play with formal learning in natural learning cycles and thus help build the cognitive constructs necessary for sustained intellectual development. They stimulate imagination and creative in a special, boundless way and supply construction materials for children's architecture and artifacts. They integrate children by age, ability and ethnic background. They help children feel good about themselves. They enhance self-esteem and offer children a peaceful feeling. They focus the perceptions of children on the region of the Earth where they actually live. They help children understand the realities of natural systems through primary experience. They demonstrate natural principles such as networks, cycles and evolutionary processes. They teach that nature is a uniquely regenerative process. They support interdisciplinary

environmental educational curricula. They provide microclimatic comfort and flexible forgiving settings that are aesthetically appealing to all people. By implication these are some of the advantages to children that are becoming lost as their use of the outdoors diminishes (Moore, 1986, p. 208).

Considering all of these benefits of natural outdoor play spaces and particularly their positive contributions to overall child development, the key takeaways from this discussion of the components of natural outdoor play spaces, particularly for those engaged in design professions are that the success of these play spaces are determined by the ability of designers to create varied sensory experiences that allow for children to manipulate the space through a variety of activities. This rich interaction and engagement in an outdoor setting allows for children to not only actively meet developmental goals and standards but also encourages the fostering of attitudes of care for the

natural environment which will later have the potential to be exceedingly influential in the formation of personal values of outdoor settings.

APPENDICES

"MOTHER EARTH FATHER SKY"

A story of creation as
told by Gavin Bishop in
*Counting Stars: Four
Maori Myths*, (2010)

"Before anything, there was nothing. No warmth, no cold. No air, no dust. Absolutely nothing. Then just like that, there was darkness. Lots of it. Everywhere. Then gradually a pale glimmer of light appeared. But as the light got brighter, it was suddenly blotted out. A gigantic mother earth, *Papatuanuku*, began to grow. At the same time a never-ending father sky, *Ranginui*, grew far above her. They fell deeply in love and spent all of their time cuddled up together. When their children were born they had to crawl around in the dark. There wasn't any room to stand up. No tall trees could grow, only vines and creepers. But one day the children saw a flash of daylight under *Ranginui's* armpit. They shouted, 'We want to live in the sunlight. Let's separate our parents.'

'No!' cried *Tawhirimatea*, the wind god. 'They are happy together.' 'But you can blow wherever you like,' said his brothers. 'The rest of us have to stay here in the dark and damp.' 'Let's attack our parents!' shouted *Tumatauenga*, the god of war. 'No!' cried *Tanemahuta*, the god of the forest. 'We need Mother Earth for somewhere to live.' 'I'll try to separate them then,' said *Rongomatane*, the god of gardens. He pushed and pushed but could not force the sky from the earth. Next *Tangaroa*, the sea god, tried but he had no luck either.

And *Haumiatiketike*, the god of wild food, tried without success. Then *Tanemahuta* placed his shoulders on Mother Earth and shoved his feet against the sky. Very slowly he pushed. He pushed until he felt a movement. Then he pushed even harder, not stopping for a moment. The sky father slowly went higher and higher. And the earth mother went lower and lower.

The air was filled with the cries of the separated parents. *Ranginui's* tears fell as rain and *Papatuanuku's* mist rose up from the land to caress the sky.

After a time the sun came out. The brothers ran about in the warm air. They were all overjoyed except for one, *Tawhirimatea*. He felt sorry that *Ranginui* was separated from his wife. *Tawhirimatea* called up for terrible winds, a freezing wind, a burning wind, a rainy wind and a sleety wind. And he himself became a hurricane. He roared through *Tanemahuta's* forest, tearing up trees and tossing them to the ground. Then he turned to *Tangaroa*. He churned the sea into whirlpools. He whipped up the waves as high as mountains. *Tangaroa's* children were frightened. Some went onto the land and became reptiles. Some stayed in the sea and became fish. *Tangaroa* was angry. He attacked the land. He tore at the cliffs and clawed at the beaches. And to this day he still does that. *Tawhirimatea's* storms raged day after day until he decided to attack *Tumatauenga*. But the war god was too strong. The winds died down and all was quiet. But not for long. *Tumatauenga* wanted to punish his brothers for not helping him when *Tawhirimatea* had attacked him. He made nets and caught the creatures of the forest and the sea and ate them. With a digging stick he found the *kumara* and the fern root. He cooked and ate those too. Much later when everything had finally calmed down, *Tanemahuta* threw a cloak of trees over his mother's body. And in the branches he made homes for a multitude of birds. For his father, he spun a cloak of stars.

And there were so many stars that the children of *Ranginui* and *Papatuanuku* could not count them all."

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