ASSEMBLING THE EMBODIMENT OF LEARNING

How can an architectural assemblage be composed to provoke learning?

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By

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A 120 point thesis
submitted to the Victoria University of Wellington in fulfilment of the
requirements for the degree of Master of Architecture (Professional)

Victoria University of Wellington
School of Architecture

2021

Acknowledgement

A graceful thank you to my supervisor, Jacqueline McIntosh, for her patience and guidance along my research journey. The appreciation for her time and effort cannot be overly expressed.

Thank you to my parents, Mr. Prapas and Mrs. Wanlapha Boonprasit, for their constant love, care, and believing in me. My sister, Mint, for her encouragement and inspiring work ethic motivating me to work hard and be the best version of myself.

I would like to express my gratitude to Ruby who have taken this journey with me, supporting, caring, and encouraging me throughout this amazing chapter of my life in the last six years

To my class, thank you for adding color, laughter, and memories. Thank you to my thesis group, thank you for experiencing this with me, thank you for your support, encouragement, and reassurance.

I would also like to extend my appreciation to my lecturers and tutors who have shaped my views, values, and interests, which have inspired my research topic. Thank you to Dereck Kawiti, for his guidance in my fourth-year final project and inspiring knowledge on Maori culture.

Thank you.

Preface

“ความรู้คือของขวัญที่ดีที่สุดที่พ่อจะให้ได้”
“Knowledge is the best gift that I can give you”

– *Dad*

Having been raised to understand the importance of education, its ongoing and integrating process in our daily lives, I have always believed and been inspired by the idea that learning is not an entity that is restricted to the four walls of a classroom. Combining this with my fascination inspired by my bicultural background, I believe learning to be a process that influences our cultural values and beliefs, our social understanding, our views on the physical world as well as how we respond to it all. Learning is a process of the past, present, and future that intertwines with one another as we develop our understanding of the world around us, ourselves and where we stand.

Throughout my years of studies within the educational curriculums from the beginning of school, I have always felt a sense of absence in the experience that these educational ‘spaces’ were providing me. As a youth faced with heightened cultural differences trying to grasp the learning material and ‘fit’ into the learning system, there has been many moments where my skills and fortes were not considered to be ‘proper’ achievements.

The generalisation that classed accomplishments and knowledge often influenced the perception that proved individuality to be challenging to appreciate. While these sense of displacement were felt

personally, I have discovered in recent years that it is more commonly experienced. Through conversations and discussions with my peers, I have discovered that this sense of displacement and absence of experience were felt by many. This raised my curiosity to find why this generalized educational scheme that has been designed to accommodate for all, were causing the sense of displacement by all? And how can I, through my knowledge within the architectural discipline, be more accommodating.

Abstract

Education is moving away from being a theory-based discipline to one that is acknowledging the importance of practice within the process of learning. As educators and researchers realise the relevance of experience within the ongoing process of learning, the educational discipline is beginning to adapt its practice to accommodate this contextual shift. This shifting context has emerged the realization that architecture for education often lacks the integration and acknowledgement of embodiment and advocating experience.

This realization has provoked many designers and researchers to reconsider how architecture is to be designed to accommodate this educational refocus. Through close analysis of previous research and the design strategies they adopt, the

research gap can be identified. While trying to achieve new architectural designs with the aim to accommodate the shift that is the educational context, there is a discrepancy within the approach taken to achieve this goal. The general approach taken within pre-existing research and designs evidently tends to take inspirations and motivations from contemporary learning activities and architectures. Thus, resulting in architectural designs that fail to accommodate for the experience of learning.

This is an extensive issue as learning is an ongoing process that, both consciously and unconsciously, persists throughout individuals' livelihoods as they engage to their surroundings. As a discipline that has the power to

influence the built environment and the metaphysical world that creates these livelihoods, it is imperative to better establish ways that the built environment can be more accommodating to heighten senses and experience.

This thesis pinpoints the issues within the existing and previous research and design processes, while proposing for an alternative approach to how architecture can be designed to provoke the essence of learning through its assemblage. Alternative approaches will be taken through all the stages of research explorations; literature reviews, case study analysis, site and programme establishments, as well as performance and design criteria established. Rather than research and analysing typical learning processes and designs, this thesis reconstructs its own

essence of learning and its criteria, thus taking inspirations from case studies that are not accommodating for typical educational activities, but the performances required.

The research scheme constructs a framework that can become a guideline for assembling architectural environments that better accommodates the experience of embodiment particularly within an educational context.

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INTRODUCTION

Figure 1 Lecture theatre at Victoria University, Te Aro Campus

1.1 Contextualisation

Educational Context

“there is an imbalance to embodiment as an approach to intellectual development.”

Sir Ken Robinson, 2006

Modern education has suppressed the liberty for expression of individuals, their cultural backgrounds and the expression of personal strengths (Van Meijl, 2008). Traditionally, conventional education regulated a top-down systematic approach creating a hierarchical teacher oriented educational environment (Robinson, 2008). Described by contemporary academics as categorising and limiting learners to standardised theory-based learning, “the current system of education was designed, conceived and constructed for a different age... conceived in the intellectual culture of the enlightenment and the economic circumstances of the industrial revolution” (Robinson, 2008).

Sir Ken Robinson, international advisor on education in the arts, described that the only outputs of current education systems around the world is university professors. This is because the current hierarchy and priorities imbedded within the rank of subjects and strategies of developing knowledge focus more on the literal and numerical aspects of knowledge and not the creative aspects (Robinson, 2006). This ‘computational’ like behaviors of the mind, focuses on information processing as a way of ‘learning’ (Bruner, 1997). Performed within a ‘classroom’ environment, western schemes of education emphasize the essence of hierarchy with a ‘teacher based’ system. While this can be beneficial for teaching individuals ‘how’ to

systematically think, predict and assume potential outcomes, it does not emphasise putting knowledge into practical interaction and action, which is equally as important, if not more (Saye & Brush, 2001). As a result of this generalised character of the educational system, learners with backgrounds from minoritized cultural groups often experiences behavioral and learning difficulties. Reflected throughout the New Zealand educational context, colonization throughout the 1850s to 1890s has brought major influences upon the ways in which knowledge is processed, transferred, engaged and obtained amongst learners (Henry & Pene, 2001).

In Aotearoa/New Zealand, the disproportionate ratio of Pakeha to Māori individuals manipulated systems of power and authority throughout all the disciplines within the community

and societal constructs.

The underlaying issue that came with colonization of Aotearoa/New Zealand can be recognised within the educational context, as the acknowledgment that Māori indigenous identity and traditions have been spiritually and culturally violated (Berryman & Woller, 2013). The education sector, like the rest, prioritised the ‘norm’ of western educational standards (Berryman & Woller, 2013). More specifically, young learners of Māori or Pacifica backgrounds experience higher levels of difficulty engaging with learning materials. “Disparities between Māori and Pakeha are evident in most dimensions of society, including education” (Van Meijl, 2008). This struggle is described to be the outcome of the lack of representation of culture within the educational system, the disconnection of learners to learning strategies, the absence of opportunity

for individualised expression and the lack of expectation for excellence from surrounding due to discrimination (Berryman & Woller, 2013). Māori perspectives on the ‘education’ provided within the system were poor as the learning material was seen as being ‘tools of the colonial enterprise’, thus, irrelevant to their values and beliefs (Berryman & Woller, 2013). Whilst, via versa, Pakeha perception of the noticeable failure of Māori within the ‘educational system’ were considered to be the fault of the limited capacity and/or willfullness (Berryman & Woller, 2013). This, however, neglects the lack of personal, cultural, and expressing representations within the constructed educational system.

Educational Contextual Shift

“Learning is experience. Everything else is just information”

– Albert Einstein

Many scholars within the education discipline have realised that formal educational programmes are not effective in delivering knowledge. As knowledge are being constructed ‘personally’ by learners “learning is a social process requiring active engagement with others in meaningful experiences” (Jamieson, 2009, p. 18). The emphasis of these formal learning environments has also created a questionable balance between theory and practice as many educational facilities and schools disregard the ‘seriousness’ of informal learning and thus commit fewer resources to it both architecturally and educationally (Jamieson, 2009).

Scholars within the educational discipline are increasingly acknowledging two key components which indicate a shift within the educational context. First, that education is not a process of delivering knowledge, but rather a process of construction made by learners and second, that learning is a social process that requires active engagement with others in meaningful experience (Jamieson, 2009). Education is now also being grasped as a process of embodiment, where the body must be permitted to both physically and mentally connect to the surrounding (Robinson, 2006). Within the process of leaning, there is to be a sense of engagement of

the body as well as the mind, for the body is to be the tool that aids the learning process and not just a “transport for the head” (Robinson, 2006). This idea is further identified and distinguished within Indigenous Māori pedagogies that encourage education to be about learning skills and qualities that allows knowledge to be translated to other aspects of life (Van Meijl, 2008).

Architectural Issue Due to shift

As the educational context revolves to become more learner and experience oriented, the absence of interaction between the architecture and its' occupants becomes more noticeable. As a consequence of this 'theory based, teacher oriented, formal learning', the typical architecture of educational facilities are traditional compacted classrooms and lecture theatres (Jamieson, 2009). Evidently, the majority of educational facilities lack the sense of interactions to its occupants due to its rigid and inflexible designs. Along with this, it is also limiting in the sense of social interactions and personal intellectual development which is important to the development of knowledge.

Often educational facilities will architecturally locate informal learning spaces such as workshops, studios, and creative laboratories in 'hidden

away' locations such as in the basement. For example, the workshop of the Victoria University of Wellington Architecture and Design School is located in the basement of the building housing most of the informal learning spaces. Whilst the main building is a five-level building, most of the floor consist of traditional classroom layouts, meeting rooms and not interactive studio spaces. It can be reflected that these informal learning styles are commonly disregarded as often the spatial allocations to accommodate them are isolated physically and often less accessible. This limits its occupants to the social experience, visual conversation and sensory interactivity that could be much more stimulated when exposed to these environments (Jamieson, 2009).

The current pandemic has demonstrated the disproportion between the emphasis of on

formal theoretical education over informal, practice based learning which is reflected in the architecture. As spatial distancing is required and educational programs are moved online, the architectural structures are left abandoned. This raises the question; if learning is so easily relocated online, what is the purpose of the architectural space to education?

There is no doubt that the architecture of education has serious issues it fails to become a major part of the assemblage that influences the experience of learning (Jamieson, 2009). "Architecture is the product of human experience and it has a profound effect on people's perceptions of the world" (Brown, 1996, p. 19).

The online experience not only fails to deliver educationally, it socially isolates the learner

leading to lack of motivation, personal cognitions, generalized learning materials that do not adapt to individuals, inadequate support, lack of community involvement, and online learner boredom (Muilenburg & Berge, 2005). This contextual acknowledgment illustrates the importance of physical experience, sensory, socialization, and interaction on learning. Elements that can be alleviated through architecture.

“the ensemble of buildings and spaces we call the modern campus does not easily or naturally establish a sense of place, let alone a sense of environment of learning or intellectual challenge.”

(Jamieson, 2009)

1.2 Relevance to Architectural Discipline

Identification and Clarification of relevance

As the context of education is moving towards greater understandings of embodiment and experience through engaging the body in the surrounding, the architectural discipline is obligated to not only keep in mind but to safeguard the essence that is the superorganic, unique, expressive, and unpredictable characters of the human body and mind. Not only do its constructs influence the activities as they take place within, but the complete assemblage becomes the world in which the users experience and remember.

The engagement of the occupants in the world around them will allow them to continue to grow and 'learn'. Thus, it is important for this discipline to shift its context of vision, and to understand that this constructed world is beyond the idea of

forms and function. It must recognise its potential and requirement to accommodate for the superorganic, expressive, unique, kinetic, emotional, and unpredictable human behaviors.

To Summarise, the constructed assemblage of education predominantly designed without consideration of engagement of both the body and the mind in a physical place is inadequate and privileges the hierarchy between the teacher and the learner rather than creating a space that provokes the essence of learning. Despite the educational context and its shift as indicated within this research, there is also a global recognition that the western systems of power and authority have been normalised throughout many disciplines of the society. As a result, the importance of cultural heritage,

expression, and essence of diversity have been ignored, belittled and suppressed. It is important to understand that the design decisions can create the livelihood of its users with a power that can influence the way they view their world.

The philosophy that describes the ensemble of architecture to be established by its surroundings and not only by its architectural elements. Including its occupants, natural and/or man made surroundings as well as the environment / climate it is in.

How can the architectural assemblage be co

1.3

Allowing learning to be
established individually through
personal experiences. Learning
as an on going process of
establishing a sense

Curiosity
Expression
Observation
Reflection

imposed to provoke the essences of learning through embodiment?

1.4 Aims & Objectives

Aims

To compose an architectural design that provokes intellectual development through stimulating personal experience.

To critically explore strategies influencing the architectural elements of assemblage that provoke the essence of creative exploration through experience, connection, and interaction.

To critically explore how the architectural design can be interactive and inclusive to provoke the engagement of a wider demographics of occupants and the surrounding community.

Objectives

Explore the essences of sensory learning and extract key components of the physical environment that allows stimulating the experiential environment.

Develop through design explorations, how the architecture can stimulate intellectual development.

Explore different strategies of composing architectural complexities that provoke a sense of curiosity.

Explore different strategies of architectural composition that allow performative spaces and thus provokes visual conversations.

Extract key components related to social learning and explore how the architectural assemblage can heighten its mechanisms.

Explore through experiential learning and creative expressions, how the architectural assemblage can accommodate the interactivity of learning.

Explore the limitations of adaptability in terms of accommodating a wider range of demographics – how different individuals experience.

1.5 Methodology

Research Proccess Framework

The process of this design research will be developed through two key stages of research explorations; research for design to establish a programme and to better understand the qualities of the architecture necessary for experiential learning and research through design as design experiments and iterations further refine and develop the design. Within the first stage of researching for design, literature reviews, case study analysis, and establishments and analysis of the site and programmes will be explored to determine the basis of the research. From the stated processes within the research for the design stage, the understanding of the essence of learning as understood within this thesis will be established along with the performance and design criteria to be achieved by the design explorations.

Moving from the research for the design stage, these analyses and established criteria will be used to compose a preliminary design. Once composed, this preliminary design will be summarised and critiqued both in terms of its performance and the process of how it has been established. The critique of the design and ongoing reflection will dictate the errors within the exploration process and guide strategies to move forward into the development stage. During the design development, design explorations will be undertaking through further iterations and development whilst reflecting on the performance and design criteria established within the beginning stages.

Once refined, the final design evaluation will allow the establishment of an architectural design framework that proposes a strategy for architectural

design assemblage that provokes embodiment and experience. This framework will suggest ways that the spatial design and composition may accommodate and heighten the experience of learning.

RESEARCH FOR DESIGN

RESEARCH TH

ROUGH DESIGN

Figure 2 Methodology diagram

1.6 Research Focus

Specific performance criteria relevant to research conducted

Figure 3 Research diagram

2

LITERATURE REVIEW

2.1 Context of Literature Review

Eductaion and Architecture

Necessary to the development of how we view the world, learning happens throughout our entire life. It is a never-ending process that comes from and constructs the world we perceive (Leshkovska & Spaseva, 2016). Both consciously and subconsciously, learning takes place through most of our daily activities as we observe, experience, sense, and engage with the surrounding physical world, thus we must acknowledge the significance of the 'constructed world' of architecture on our development of knowledge.

When searching for the definition of 'education, as the process of gaining knowledge, the descriptions and associations made may vary depending on the different individual(s) involved, time era it is referred to, and/or even the cultural groups.

*“For Māori the ultimate aim of
knowing is understanding, maatua,
the grasp of inner meaning,
knowing things in their essence and
in their patterns”
Van Meijl, 2008*

2.2 What are the Essences of Learning?

Through Māori and Western Eyes

The essence of learning will be researched specifically within this thesis to understand the most important key criteria and characteristics of learning. the research will challenge conventional ways in which learning is understood and practiced, compiling not the answer, but an understanding to 'what are the essences of learning' through both western and indigenous philosophical standpoints. More specific to the New Zealand context, the essence of learning through Kaupapa Māori (traditional Māori ways of living, being, thinking, culture, and view of the world) will be explored (Henry & Pene, 2001). the research will also explore the essences of learning through general western educational theories and philosophies.

“the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience.” (Kolb, 1984, p. 41) (Kolb & Kolb, 2013)

For scholars such as; Mary Parker Follett, Paulo Freire, John Dewey, William James, Kurt Lewin, Carl Rogers, and Carl Jung, the notion of experience and learning is perceived as being one same entity (Kolb & Kolb, 2013). Learning through experience is naturally the way that we develop our understanding and knowledge of our surroundings. Theoretically framed as 'Experiential Learning', it is a notion that emphasises the relevance of personal and individual experiences over conventional learning materials.

It is to look at an individual's development of knowledge as a process of encountering and discovering new information and not measured by only the outcome (Kolb & Kolb, 2013). Intellectually, this encourages learning to be a mode of exploration, discovery, and sensory, thus creating unique learning experiences for each individual. The process of gaining knowledge is most effectively accomplished when the body and most, if not all, of its senses, are engaged (Shams & Seitz, 2008).

Multisensory learning is one of the components within the educational discipline recognised to be very influential on the human development of intellectual knowledge (Shams & Seitz, 2008). By default, we develop our understanding of the world around us through combining information stimulated by our senses based on our surroundings (Leshkovska & Spaseva, 2016).

While the philosophies regarding 'experiential' and 'multi-sensory learning may have only been

more recently explored amongst western philosophers, it is not an unfamiliar practice by those of indigenous backgrounds. More specific to indigenous Kaupapa Māori, the idea of experience and sensory of the surrounding world have not only accompanied the aim to accomplish 'learning' but is practiced in daily livelihood (Henry & Pene, 2001).

Even though the essences of learning have not necessarily been classified as a separate components from daily living, within the principles of kaupapa

Māori, learning can be broken down into three areas of learning processes, ordering from less formal instance to most; Exposure, apprenticeship, or tutorial strategy, and Whare wānanga (place of higher learning or meeting house) (Van Meijl, 2008).

“Māori teaching is not a matter of ‘practicing what you preach’ so much as ‘preaching by your practice’ (Van Meijl, 2008)

1.
Exposure

“letting things happen naturally, and taking advantage of them when and as they do” (Van Meijl, 2008)

Encouraging learners to inhabit the learning environment, observe, and both consciously and unconsciously engage. This strategy encourages the learner to participate and learn through doing. This is the ‘practice’ side of the spectrum of theory and practice, which can be identified in Kolb’s learning cycle. Education through exposure prioritises informality and “on going life of the community” as well as deeper understanding (Van Meijl, 2008) rather than information or ‘theory’ based.

2.
Apprenticeship or Tutorial

Integrated with the highest practice hierarchy of Māori societal and cultural constructs, this strategy occurs when a wiser, elderly or more experienced figure demonstrates their actions with close observations from selected ‘learners’ (Van Meijl, 2008). While it is reliant on the learner’s initiatives to observe and comprehend, this strategy is more formal than the previous for its requirement of a ‘teacher’.

3.
Whare Wānanga

Whare, directly translated, meaning ‘house’ and Wānanga meaning ‘meeting’, discuss or educational seminar, the strategy refers to a ritual that embraces socialization, community discussion, sharing viewpoints. It is a “gathering where Māori come together to share knowledge and debate issues, traditional as well as modern.” (Van Meijl, 2008). Categorised as the most formal of the three, this strategy of the learning process involves only a selection of ‘learners’ or “college of experts, who share and debate the knowledge they hold individual”(Van Meijl, 2008).

These Indigenous strategies, however previously categorized, are not classified by their origins as specifically being 'educational strategies' as such, but rather as a 'ways of living', imbedded into the cultural practices, more simply applied as "basic values, such as respect, hospitality, and aroha" (Van Meijl, 2008). The strategies often involve family members or close relatives which emphasizes the essence of 'ako' where the teacher can be anybody. It can also be explained by the philosophies surrounding 'multigenerational education'. Cooperation becomes a part of developing knowledge. One common essence emphasized within the kaupapa Māori educational strategies is the idea that they encourage learning to be a process that brings people together. The sense that education is a process of growth

that encourages collaboration with one another (Berryman & Woller, 2013).

Through the different strategies and outcomes, the Māori view on the essence of learning and the process of gaining knowledge can be described as a journey. Portrayed more as a sense of constructing knowledge based on the livelihood and engagement with the surrounding metaphysical world rather than as a specifically composed curriculum to be completed and measured. Learning is an ongoing process (Van Meijl, 2008). Thus, it is realistic to summarise with the assumption that, as each individuals' experiences and comprehension of the world around them is based on their own initiatives, the gathered 'information' would alter

accordingly to their individualized ways. This would also suggest that the essence of learning is an individualized process that is not to be generalised.

Individuality in 'learning styles' is another philosophical framework acknowledged within the western educational discipline. Paradoxically speaking, every individual is identical as everyone's learning methods are all different (Chongde & Tsingan, 2003). This sense of unique individuality in learning methods has been acknowledged by many scholars including Howard Garner in his Theory of Multiple Intelligence, which suggests different kinds of intelligence and thus styles of learning of every individual.

These are visual-spatial, linguistic-verbal, interpersonal, intrapersonal, logical-mathematical, musical, bodily-kinetic, and naturalistic) (Leshkovska & Spaseva, 2016). These identified ideas of multiple intelligence have also been recognised by the ancient Chinese educational program of the 'Six Arts' (Chongde & Tsingan, 2003) as well as amongst indigenous teaching including Māori. This area of recognizing how individuals gain knowledge is the appreciation that learning cannot be achieved by every individual using the same processes and 'teaching' methods. Not only that every individual favours different intellectual methods, but the idea that each individual will demonstrate a unique combination of multiple styles (Leshkovska & Spaseva, 2016) (Morgan, 1996).

Human intelligence as explained by Howard Gardner is "the capacity to do something useful and valued in the society, the ability to respond successfully to the new situation and to learn from past experiences and the ability to resolve problems encountered in life" (Leshkovska & Spaseva, 2016). This concept suggests that intelligence or the essence of learning is also a process of developing an ongoing 'usefulness' whereby, the knowledge gained can be transferred and adapted to aid daily living.

Reflected within kaupapa Māori, this is the essence of using established knowledge of kaumatua (elders) to adapt and is integrated to solve issues of existing contexts (Henry & Pene, 2001, Van Meijl, 2008).

Figure 4 Howard Gardner learning style diagram

PRACTICE

Noun: practice¹

*The actual application or use
of an idea, belief, or method
as opposed to theories
relating to it*

*“The principles and
practice of teaching”*

Figure 5 Kolb's Learning Cycle, process between theory and practice

“Traditionally, Māori information and knowledge resided in the memories and minds of the people. It was not recorded in books or in any other such medium. Knowledge was passed down from parents and elders to children in informal and formal learning situations by vocal expression. Oral literature was recited continuously until it was carved into the house of the mind.”

(Van Meijl, 2008)

This simple concept of knowledge progression through theory and practice either generations or personal discovery can be established as the essence of an ongoing process through a never-ending cycle. The counterbalancing notion of theory and practice as a cycle has simply always been the basic protocol for researchers across all disciplines including architecture (Niezabitowska, 2018). Necessary to the development of knowledge, these counterbalancing notions allow knowledge to be learned, explored, and continuously develop. This cycle can also be explained through Kolb's Learning Cycle. This philosophy summarises the development of knowledge gained by an individual as an infinite cycle going through stages of active experimentation, concrete

experience, reflective observation, and abstract conceptualization (Vince, 1998).

As defined by an international advisor on education in the arts, Sir Kenneth Robinson, intelligence as the basis of human intellectual development has three precise characteristics; it is diverse, dynamic, and distinct (Robinson, 2006). Thus, to summarise, the essences of learning can be compiled into three main compartments as understood within this thesis; learning is experiential, learning is individualized, and learning is an ongoing process. Learning is a process that is developed on a personal basis, as individuals connect and find their incentives to engage. Thus, transitioning education towards pedagogies that grasps the essence of inclusion, expression of personal

and cultural differences, and the engagement to the surrounding world and community, can improve not only how knowledge is to be engaged by the learner but how it might be used and translated to aid livelihoods (Berryman & Woller, 2013).

2.3 GAP

Research 'GAP'

The architecture of education is being recognized by many designers and researchers to be less and less accommodating to the contextual shift of education, which is refocusing on informality and a learner-oriented environment (Boys, 2011). This re-engagement has given attention to the importance of individualized experience, interaction, socialisation, and sensory.

Specifically, two theoretical gaps have been recognized concerning the educational and architectural contextual shifts, consequential of one another. The first, as described previously, is classified within this thesis as the contextual gap. It is the absence of interaction between the architecture and the body due to the influences of conventional educational systems.

This style of education has very little if any encouragement for engaging with surroundings, individualised experience, social interactions, and sensory. Hence, the architecture is not designed with the consideration that it is required to narrate the experience and sensory of its occupants. The gap between—this lack of interaction can also be recognised in this thesis as a motivation to adjust the architectural design.

The second theoretical gap is the research gap. This is a critical reflection upon existing scholars' and architectural designers' works. To clarify, many scholars, designers, and researchers have recognised this contextual gap and have tried to 'merge the gap'. Reinstated in Towards Creative Learning Spaces (Boys, 2011), this 'simple' idea of merging

the notion of experience and learning has proven to be more difficult than expected.

The research gap recognised within this thesis can be broken into two aspects; 1. How the scholars have aimed "to rethink the 'classroom space' such that it is likely that a radically different concept of a 'classroom' as a learning environment will emerge with inspiration drawn from other successful social, recreational, and workplace environment" (Boys, 2011, p. 19). As clearly identified in the book Towards Creative Learning Spaces and as an example of research by author, Peter Jamieson, the existing research to achieve this new learning environment investigates common key disciplines of 'teaching and learning and 'environmental behavior and psychology (Boys, 2011).

This is to try and understand 'how humans relate to the built environment and what this means for the performance of teachers and students in the 'classroom'.

The specific study in this area has resulted in the difficulty to merge the relationship between the space cause' and learning 'effect', to achieve the new learning environment. This is because the studies tend to focus on understanding the characteristics specific to occupants in terms of 'a teacher' or 'a student' whilst examining the spatial contexts of existing classroom styles. The gap in this process is that, while the aim is to rethink learning spaces to influence higher levels of interactions and collaboration, which potentially has emerged from recreational and more

social environments, trying to re-establish a new framework or design based on existing 'classrooms' and 'classroom behaviors will seem to only be provoking pre-existing 'classroom activities' and limitations restricted to providing a 'classroom'.

The research gap, as previously explained, can be classified as a conventional approach to the contextual gap relatable to the Architectural Theory of Regulations as considered by French philosopher, Michael Foucault. The philosophy studies how the metaphysical existence and construct of the built environment regulate the way people behave within the spaces and how they heighten the required behaviors within the space (Shah & Kesan, 2007). Specific to the contextual gap, this theory would be explored

as a reference to develop the alternative learning environment whilst implementing the essence of current education schemes. This is with the intention that learning would still be regulated despite the change of environment (Shah & Kesan, 2007).

Critically recognised within this thesis, this a research gap. The application of this philosophy would drive the scope of the thesis in a direction where the architectural spaces implement rules and regulations of conventional education. This strategy would reflect traditional ways in which spatial allocations are influenced, which can limit potential outcomes of a 'reimagined' learning environment.

2. The second research gap recognized is that there is an overlooked component of architectural design for educational space. This is the idea that openness, inclusivity, and collectiveness have been prioritised over personal engagement and experience, which is crucial for certain learners. It is important to note that, while the social climate is a significant component that provokes a more engaging learning environment, it is with the control that this environment can effectively achieve its potential. Through crafting the architectural design, the learner-based social climate can be established, however, careful consideration of the level of social exposure must be considered. This is because 1. too many social interactions can become distracting and for certain types

of learners and/or their learning materials (Gislason, 2010). 2. As part of provoking engagement within an educational context, personal intimacy to the learning materials, sense of place and interaction, and engagement on a micro-scale are also crucial to be established. Concerning architecture, this reflects how the architectural programmes are allocated, partitioned, and assembled in relation to one another.

The influence of modern architectural trends has found open-plan 'living' spaces to become more favorable. This has not only been the case through residential designs but commercial and cultural facility types. Amongst this are the designs of educational facilities (Buxton, 2007). Open-plan classroom designs are becoming more common,

aiming to achieve a social educational environment that is more interactive, engaging, and involving. However, many aspects of these open spaces provoke more a more challenging environment to some learners and their activities as they become more distracting rather than engaging (Gislason, 2010). While multisensory interactive learning spaces might enhance educational engagement for learners with dyslexia (Shams & Seitz, 2008), too many stimulants from the external environment prove to be challenging for learners with autism.

Summary

To summarise, while there are clear identifications of the importance of connection, social development, engagement to surroundings, and personal expressions on learning, the process and strategies adopted to design these educational architectures contradict this understanding. This thesis acknowledges two consequential gaps relating to the problem of the contextual shift of learning. The first is the context gap acknowledged as the absence of interaction between the two notions; experience and learning within the design of the learning environment. The second is the research gap recognised as the questionable approach previously taken to examine solutions to merge the two notions. This gap can be broken down into two areas where one lacks the creative approach to challenge the research method, thus resulting in already experienced conventional outcomes. The other challenges learning behaviors, thus influencing the architectural design to accommodate the inclusivity character of the educational shift, however, neglected crucial aspects of learning requirements for certain learners on an individual and personal level.

***“Māori approach emphasizes
the unified cooperation of
teacher and learner in a single
enterprise, which is also
expressed in Māori education
strategies.”***

(Van Meijl, 2008)

“Architecture is the product of human experience and it has a profound effect on people’s perceptions of the world”

Dr Deidre Brown

2.4 Proposition

Through Architectural Theories

This thesis proposes to take an alternative approach to research the possible ways to merge the notion of experience and learning through architectural explorations. As it is clear that, within the educational contexts, there is a shift for an informal learning environment. There arises the need for a new type of architectural response that puts experience at the forefront of design to provoke a more intimate and engaging educational environment. Adapting a new architectural typology and approach to design aligns with the characteristics of the progression of Indigenous Māori architecture as set out by Dr. Deidre Brown. Brown expressed that, through adapting to the changing natural challenges, spiritual connections, political and colonial environments, Māori architecture would be

constructed and reconstructed to express the world as understood by its Indigenous occupants (Deidre Brown, 1996). “Founded on a changing, rather than static” world Deidre Brown, 1996), this perception of architectural design is to be adopted to investigate means of expressing the notion of experience and learning within the architecture.

This thesis aims to explore, through architecture, how the identified essences of learning may be integrated into the design process to allow the learning environment to heighten the contextual shift. This is to see architecture as rather than just accommodating the process of learning, is required for the achievement of learning. Understanding the relevance of the built environment on the

development of education. Hence, the aim is to develop the architecture so that it may amplify the experiential, individualized, and ongoing character of learning. Exploring, within the research process, through scales (from macro compositions down to the personal micro scales) how the built environment intertwines with the body.

Learning as a Journey

Inspired by the essence that learning is an ongoing process, the design composition for an educational environment is to integrate a sense of journey. Physically this is the sense of literal and philosophical 'direction'.

Established from a previous project within the masters of architectural studies professional degree, the proposition to create an education-based architectural complex so that it corresponds to the essence of learning as a journey was inspired by an 'on site' exploration in Te Urewera, New Zealand. With background research and in-person, the real-life experience of Kaupapa Māori amongst the people of Ngāi Tūhoe, the proposition of learning as a journey was meaningfully understood. The design established for an open

school in Ruatoki, Te Kete Aronui O Ruatoki', challenged how existing educational facilities were designed and what they accommodated. Provided as an inspiration from the tribe, it was clear that not only were the educational schemes in schools not allowing for personal expression of individual students about their culture, wellbeing, and their connection to surrounding, but this was also reflected upon the architectural design.

Figure 6 Fourth-year project conceptualisation sketch

Figure 7 Sketch 'journey' fourth year project

Figure 8 *Final section, fourth year project*

Figure 9 *Final renders, fourth year projectw*

Architectural Assemblage & Performance

Architectural design elements are the composition of the environment that influence experience, thus, stimulate the sensory. While it is rational to understand that the 'architectural elements', referred to, are the physical design elements of the architecture itself, it is important to acknowledge that they are not the only component. Just as how the "strategies [of learning] are not mutually exclusive, but they occur in varying combinations" naturally (Van Meijl, 2008). Architectural assemblage is the philosophy that explains the relevance of integrating all elements of the architectural composition to create the environment. It proposes that "a building is an assemblage of socio-spatial flows and intersections" (Dovey, 2013).

As the architectural space is occupied, the composition of the activities that take place and the people interactions within it also becomes part of that assembles the overall experience (Dovey, 2013). "Architecture ... can be understood as the result of desires" (Dovey, 2013) meaning that the elements within the assemblage are allocated based on the need of its occupants, surrounding, activities, time, and circumstances. This architectural philosophy indicated that the experience conducted by the built environment must take into consideration, not only the building, its occupants, and their specific activities, but to take into consideration the surrounding environment also. This includes; the climate, locality, surrounding traffic, and pedestrians, as well as even how they influence the audio and ambient levels experienced within the specific built environment (DeLanda, 2016)

ARCHITECTURAL ASSEMBLAGE

Macro Scale

Micro Scale

Composition of Experience

Sociology and Symbolic Interactions

The assemblage of the architectural elements, their surroundings, and the established programs are to be composed with the considerations to how the designed physical spaces and the self-intertwine. Through the study of symbolic interaction theory and its relations to architecture, some scholars have also suggested that individuals better discover themselves and how they relate to the world around them when they have been exposed to opportunities that allow them to express their creativity in the habitable spaces they are in (Smith & Bugni, 2006).

Through this philosophy, the architectural design may benefit and achieve a more meaningful connection and interaction with its occupants. To provoke a

sense of self (Jamieson, 2009) within the learning environment, provoking personal level engagement through symbolic interactions and sensory can allow for a more meaningful experience. This 'quality of learning environment' is the control of architectural design elements such as lighting, color, materials, and textures that influences architectural atmospheres thus provoking meaningful sensory interaction within the space (Smith & Bugni, 2006).

Red and White Schools of Architecture

The sociological and symbolic interaction to architecture can be proposed to be achieved through the theory of the 'Red and White Schools of Architecture', as studied by Japanese architectural historian and architect, Terunobu Fujimori (the term school as used here is in terms of 'school of thought' and not literally as an architectural programme) (Hayatsu & Jones, 2016). The colours used to describe the architecture signified the 'mode' or 'type' of design that it might symbolise through its visual language. The 'Red' school displays an earthiness, mass, and intentional lack of refinement within its visual language. While the 'White' school, by contrast, displays simplicity, refinement, lightness, precision, and abstraction (Brownell, 2016). Symbolically these

visual languages can be used to represent counterbalancing notions of theory and practice, as 'red' represents the body or practice and 'white' the theory of mind.

To allow the overall visual language of the architecture to illustrate the essence of learning in both its practical and intellectual form, the assemblage of design composition should balance these characteristics in ways where both are equally as stimulating of the essence of learning as the other.

2.5 Summary and Performance Criteria Establishment

Summary

Overall, the essence of learning as understood specifically in this thesis is an experiential, individualized, and ongoing process. To create an effective learning environment through the architectural discipline, space must provoke experiences that allow every unique individual to engage within their ways as “[learning] is a process of living and not a preparation for future living” (Leshkovska & Spaseva, 2016, p. 57).

Māori teaching often puts the responsibility on the learners to look, listen and imitate, with minimum words of instructions and or discussions as they are encouraged to personally engage (Van Meijl, 2008). This may be translated to the criteria as the architectural spaces must allow for this sense of engagement and exposure, provoking observation, reflection, interaction, and curiosity.

One common essence emphasized within Māori educational strategies is the idea that they encourage learning to be a process that brings people together. The sense education is a process of growth that encourages collaboration with another. The idea is to allow the architecture to become the very tool that accommodates the essence of education through demonstration, the architecture becomes the element that enables anyone to become ‘teachers’, or equally the architecture itself might become the teacher.

While the proposed architecture is to presents a sense of place, personal connection, and sense of ‘welcomeness, through an architectural composition that provokes sensory, personal expression, and ‘kinetic-ness’. For knowledge to be meaningfully engaged and retained a sense of curiosity

be provoked. Within Kaupapa Māori, knowledge is ‘Taonga’ (treasure) and has ‘mana’ (spiritual power) “protected with barriers tough enough to test the commitment and perseverance of its seekers” (Van Meijl, 2008). Translated into the performance criteria, this is the sense of curiosity that is to be provoked by the design. For meaningful engagement of learning and to provoke a sense of personally established exploration. For the architecture to warn and/or alert the learner to engage with their senses

ESSENCES OF LEARNING

SENSORY

CURIOSITY

EXPRESSION

“Māori educational strategies are not mutually exclusive, but they occur in varying combinations”

(Van Meijl, 2008)

OBSERVATION &
REFLECTION

RESPONDS TO USAGE

KINETIC

Six Performance Criteria to Achieve

CURIOSITY

Curiosity, as understood within this research, is the composition of architectural design decisions that provokes interest and attention. It is the idea that the architectural composition illustrates notes of peculiarity and a sense of mystery. Relatively, this mainly refers to the aspect relating to the visual language of the design. The visual composition of architectural elements such as the allocation of partition walls, tectonic elements, or choices of materials is to be precisely controlled to permit limited allowance for clarity. This is to provoke a sense of exploration.

SENSORY

Sensory is the idea that the composition of the architectural elements heightens the experiences provoked to its users, both internally and externally. This, concerning design decisions, is to consider ways that the built environment composed by the architectural elements may stimulate the user's senses.

EXPRESSION

Expression can be identified into two definitions specific to the performance criteria of this research.

1. The expression of the architecture itself about the people it serves – more specifically this refers to the visual language conveyed by the entire architectural composition that may be represented through essences, symbolically or monumentally to its demographics.
2. How the users can freely express and explore their individuality on the architectural surfaces and/or within and around spaces, concerning the architectural design decisions. This may be the allowance for interaction and adaptations to the architectural surfaces and allocated elements. for example, the integration of texture of material surfaces that provokes the physical senses of touch.

Believe the Essences of Learning

OBSERVATION & REFLECTION

Observation and reflection are the ideas of providing a moment where the intellectual experiences provoked are influenced by external compositions.

Concerning architectural design decisions, this is to provide experiences of physical, visual, and emotional engagement to other specific prospects within and/or surrounding the architectural composition other than the one inhabited. This may be engaging to other spaces within the design, external environments, or other occupants.

KINETIC

Simultaneously, the criteria of kinetic are how the architectural composition may provide moments of exposure that may influence any sort of interaction. Practically referring to the sense of 'play', this is the consideration of architectural elements exposing occupants to the notion of embodiment.

This can be achieved by two strategies concerning design.

- 1.The architecture itself is composed in such a way that indicates movement and interaction – changing the levels of floors, steps, organic shapes, etc.

- 2.The architecture itself becomes the component of movement that can be adapted to suit the embodiment of its occupants – interactive materials (mesh curtains), movable partitions, internal/external adaptive façade.

RESPONDS TO USAGE

Concerning the demographic and purpose, this criteria refers to how the overall embodiment related by the manipulation of the architectural spaces have achieved the essences of learning.

Responding to use, as referred to within this research process, is not referring to specific activities or programmes, but the achievement of architecture to provoke experience and sense of intellectual development.

3

CASE STUDIES

Case studies have been analysed with respect to the six principles essential for the essences of learning; curiosity, sensory, expression, observation and reflection, kinetic, and respond to usage

3.1 CURIOSITY

Composition of architectural complexity that provokes a sense of curiosity and allows the feeling of discovery to be experienced.

Essential on intellectual, emotional, and physical development, curiosity is a stimulus that influences learning (Almaç & Aydemir, 2015). The sense that learning is desired can be provoked through curiosity. Represented in the architecture, this is the assemblage where the architectural elements, its programme, and/or its spaces are modestly exposed to suggest a point of interest, however, 'held back' thus requiring the users' efforts to explore for more. To understand architectural design strategies that have allows the effects of curiosity to be made, spaces such as the Spiral Gallery in Shanghai, China are studied.

Designed by Atelier Deshaus, with clear characteristics of the principles of the 'white school' of architecture, the architectural composition of the Spiral Gallery illustrates a successful example of how the effects of curiosity can be achieved through architecture. Two key strategic aspects studied here are; 1. the integration of spatial composition both in the site and within the design 2. the design choices relating to materials and their compositions.

*through the journey exposure is expressed.
→ as the journey is taken new scenes are exposed.
with requirements for the users to actually 'take a step' to explore themselves.
Thus a level of curiosity is provoked*

Figure 10 *Spiral Gallery, Shanghai China*

Figure 11 *Plan Sketch, exposure to landscape diagram*

1. Suggested within its name, the Spiral Gallery integrated design strategies of spatial composition to bring attention to the beautiful surrounding landscape. The spiral motion of the organic form allows a 'directed journey' to be created, with the sense that the more the journey was taken the more the users would be exposed to the intended experience.

2. A precise combination of materials has been integrated into the design of the façade. This is to control the level of visual and light exposure within and external of the gallery itself. The first (inner) layer of the façade is made of tempered glass, curved to the organic form of the building, undoubtedly for visual transparency and connection. The second (outer) layer, however, filters the level of exposure through the choice of a 3mm corrugated perforated aluminium veneer screen. The curtain-like feature allows not only the limitation of direct sunlight into the gallery space but provokes a sense of curiosity as the mesh limits visual exposure inside and out.

Figure 12 Spiral Gallery, Shanghai interior

Figure 13 Spiral Gallery, façade detail sketch

3.2 SENSORY

How architectural surfaces stimulate the senses

Sensory stimulation can be established by simply creating blankness. The Hiroshi Senju Museum designed by architect Ryue Nishizawa demonstrates this idea through his use of a simple selection of materials and spatial composition for a simplified visual experience. A similar technique has also been used in the design of the Teshima Art Museum designed also designed by Nishizawa. Through the spatial composition, both the designs of the museums have integrated the intentional yet free circulations that allow users to explore. Whilst these circulations seem to be spontaneous, the thoughtful allocations of the 'exhibited materials' allow certain moments to more sensory engaging thus creating a more meaningful experience.

Allowing the built environment to be freely manipulated by the external natural surroundings, the Teshima Art Museum provokes the users' senses with vision, sound, and even temperature. The purpose of the architectural design in this case can be described as being a blank canvas that allows all the elements of the 'art' to be expressed.

Figure 14 Hiroshi Senju Museum by architect Ryue Nishizawa

Figure 15 Teshima Art Museum by Rei Naito and architect Ryue Nishizawa

3.3 EXPRESSION

An architectural composition that conveys a sense of freedom and encourages a sense of unlimited self-expression and community.

Expression, as a performance criteria, is the idea that the architecture itself become to tool that allows for meaningful experience, which indicates a sense of place and/or representation of people and culture. It is the idea that the architectural elements either embodies expression of its intended purpose or aids its occupants to do so. The Hive designed by Heatherwick Studio illustrates an essence within their design details, which influences the spatial tone of the place and people. Designed with the intention that space is to accommodate informal contemporary ways of learning. The material surface treatment has intentionally been integrated into the design. The raw concrete treatment adds a relatable scale and texture

responding to the body. This breaks down the facility's large-scale composition and indicates a more friendly, associative, and expressing character.

Figure 16 *The Hive by Heatherwick Studio*

This technique of material three-dimensional treatment on the surface that adds a sense of expression to the design by the architecture is also illustrated by the design of the Micro Library Warak Kayu by SHAU Indonesia. Here the timber construction developed texture and depth through its details, overlaying, and visual patterns. This treatment of a large-scale architectural element allows it to be broken down thus providing a better sense of personal interaction to the human scale. While this is a visual composition, the integration of this design strategy allows for a meaningful sense of place as it represents culture.

Figure 17 *Micro Library Warak Kayu by SHAU Indonesia*

The Micro Library has also achieved expression as the idea of embodiment. It allows occupants to freely express and explore their individuality within and around spaces. The library integrates playful elements throughout the design with stepping and informal stepped-levels.

This sense of free expression through the embodiment of space has also been integrated through the composition of Helsinki Library by LAL architects. The stepped-levels of through the floors suggests an invitation for movement.

Figure 18 Micro Library Warak Kayu by SHAU Indonesia

Figure 19 Sketch analysis, Helsinki Library by LAL architects

Figure 20 Sketch analysis, Calgary Central Library by Snohetta

3.4 OBSERVATION & REFLECTION

Architectural spaces that encourage a sense of observation of the surrounding environment and other users (both in the sense of environment and privacy)

Opportunities for observation and reflection are necessary and key components that contribute to the establishment of the essences of learning. It is the idea that the design of the built environment provides moments that may accommodate and allow the action of intellectual development to be made through exposure to external composition other than the 'moment' inhabited. Grace Farm designed by SANNA is a multipurpose building that has accomplished these criteria through the composition of their design. Following the idea of learning through a journey, the design of the complex weaves through the landscape using outdoor circulations. This open circulation provides a viewing platform that facilitate reflection upon the activities placed within the complex themselves.

Along with this, the building envelope has also been designed with levels of transparency on the façade itself. Each building is composed of a curved glass exterior allowing for exposure not only to the circulation paths but also to the surrounding landscape, achieving meaningful connection and engagement.

Figure 21 *Grace Farm by SANNA*

This strategy of providing transparency and connection through the composition and material treatment of the architectural façade has also been integrated into the design of the Kanagawa Institute of Technology Workshop designed by Junya Ishima. With thin plain columns holding up the roof structure and a full external glassed façade, the workshop gives the impression that it is a platform displaying the activities inside. Whilst the observation and reflection are experienced within the composed spaces, it is also as intriguing for these criteria to be achieved by external users.

Figure 22 *Kanagawa Institute of Technology by Junya Ishigami*

KANAGAWA INSTITUTE OF TECHNOLOGY WORKSHOP

Junya Ishigami

(programme study)

* Primary used by engineering & design students but also members of the public.

Architects: Junya Ishigami

Area: 2000 m²

Year: 2008

Material: Steel, glass

white

305 columns

Varies in size & supports roof

ground to ceiling surround glazing allows building to seem weightless.

connective conversation between internal - internal & internal - external

* White interiors allows for refocus of 'making' & argument to learning.
white columns redirects focus to space rather than structures.

* Single storey room
↳ One full open plan.

* Spaces all free to adapt
furnitures throughout.

small elements of greenery lightens up the space

PLAN

open plan space supported by multiple thin poles.

* 'randomly' allocate columns dictates zoned spaces with non restricted qualities = flexibility & adaptability to suit activities.

Figure 23 Sketch analysis, Kanagawa Institute of Technology

Figure 24 Sketch analysis, Kanagawa Institute of Technology

Observation and reflection can also be accomplished through vertical compositions, where a physical platform is created through the elevation of heights. This has been integrated into the design of the Grace Farm complex and illustrated in the simple and precisely effective design of the Fuji Kindergarten designed by Tezuka Architects. The overall composition of the building takes a full circular shape allowing a 360o connection throughout. This has been combined with the allows for rooftop access and a slight tilt towards the inner courtyard. The combination of the entire composition is to achieve full visual and physical connection. The rooftop access allows for its students to observe and reflect as they play and comprehend their full exposure to the surrounding.

Figure 25 *Fuji Kinder Garten by Tezuka Architects*

3.5 KINETIC

Challenging the architectural movement to explore ways that the superorganic characteristics of exploratory behaviours of learning can be free and active within the architectural spaces.

Kinetic qualities can be illustrated in two ways through by architectural composition;

1. A design that provokes or influences the movement and the users who or to embody the space and
2. A design that has been composed with elements that are physically adaptable and kinetic.

The Micro Library Warak Kayu designed by SHAU Indonesia, as mentioned as an example, has achieved the notion of kinetic as the idea of embodiment. By allowing its occupants to freely express and explore their individuality on the architectural surfaces and within and around spaces. The Library integrates playful elements throughout with stepping seats and informal floor levelling.

This sense of free expression as embodiment in space has also been integrated through the design of the spatial composition in the Helsinki Library designed by LAL architects and the Lego House designed by BIG. The stepping of the horizontal floors create a sense of movement, an of invitation to move.

The components that displays characteristics are the walls or large openings that are physically adaptable. These elements need to be designed with a higher degree of significance if they are to allow the internal atmosphere within the space to be influenced and affect the experience of its occupants.

Figure 26 Sketch analysis The LEGO House by BIG Architects

With a fully openable façade wall, the Fa Chang Cultural Centre by CCDI Dongxiying Studio adapts the spatial composition which accommodate its users' informal use. Designed as a multipurpose facility to be used by the community, the large multi bi-folds walls and doors allow for the building to become fully open and connected to the external environment adapting from a fully enclosed room to a free open 'pavilion'

Figure 27 *Fa Chang Cultural Centre by CCDI Dongxiying Studio*

3.6 Responds to Users Experience

Te Papa Case study of New Zealand Cultural facility that is educational based

Te Papa, the national museum of New Zealand influenced the site selection process. The building façade exhibition schemes have been studied. As a cultural facility, Te Papa is a good case study within this thesis for two main reasons; 1. To show how they provide a successful interactive space that provokes attention and engagement and 2. How the exhibition portrays cultural materials that manage to engage audiences of different backgrounds.

Figure 28 Photo Collage Te Papa Museum

Exhibition Scheme

Design strategies implemented into the composition of the exhibition spaces are explored for the research to understand ways that the built environment might be able to be designed to provoke the essence of learning. The key question considered for the exploration is: What are the major components considered when designing to provoke interactions and engagement to learning material?

Through understanding the content and 'what the message is', the exhibition can be customised to communicate in a meaningful way. The spaces of the exhibition successfully achieve the established six criteria (curiosity, sensory, expression, observation, and reflection, kinetic, responds to usage) through its design.

Provoking curiosity and stimulating the senses, the exhibition manipulates lighting and color curiosity and stimulate the senses. Directing curiosity by constructing small enclosed spaces with heightened audio and visual stimulus, to exposure of more open atmosphere achieves the criteria of observation and reflection. Through the composition it provides physically interactive materials that allow users to 'play'. As these interactive materials invite users to embody the experience, their interactions are observed by other occupants and thus creating an exposed learning environment. This is the notion of spatial assemblage and performance, where the built environment and the experience are established through the composition of the 'whole'.

Figure 29 Te Papa Te Taiao Nature Exhibitions and Bush walk

The importance of the user

The main consideration for the exploration of this area is refers to the techniques adopted to integrate within the general exhibitions that allowed the culture to be experienced, understood, and interacted on such a high level?

Through understanding the different audiences and how the exhibition spaces can become more engaging for the different groups, the necessary design become more apparent. For example social constructs such as family and community relations (larger clusters, groups, family-oriented), can dictate the requirements for the design composition. Certain areas provided for communal interactions and others are provided for intimate explorations, the scales of the materials can be allocated accordingly.

Having a clear understanding that there will be a wide variety of different types of audiences that visit the space is another key consideration relating to the design influenced by the users. This relates to understanding that the 'visitors or the occupants will come to space with different intentions.

Within the design of learning spaces: it is important to consider who the people are that would use this engaging space and allow them to occupy it in their own individual ways.

Figure 30 *Te Papa Te Taiao Nature Exhibitions*

3.7 Design Strategies to Achieve Performance Criteria

Design Criteria	Form	Visual language & façade	Composition of embodiment	Material and surface treatment	How the composition of design criteria responds to the design usage.
	The effects of the size and scale of the building along with its shapes and footprint	<p>How the design reflects and represents its location and demographics and communicate symbolically what the architecture is for.</p> <p>Overlay and complexify the visual language through patterns and textures</p>	<p>Circulation: consider the circulations as a 'space' that is part of the whole composition</p> <p>Landscape: challenging the typical character of the cityscape</p> <p>Movement: assembling and challenging movement through the ground plane</p>	<p>Integrate materiality so that it may assist the performance criteria</p> <p>A simple and minimal selection of materials within the overall composition</p>	<p>Understand the spatial usage (programme) in relation to the nature of the activities and the occupants to accommodate the atmosphere (level of intimacy needed, informality, exposure etc).</p>

4

SITE & PROGRAMME

4.1 Site Selection Criteria

Requirement for site to establish framework

This thesis aims to develop a framework for an architectural assemblage that provokes the essences of learning with the intention that it can become a programme model for other cities to integrate into their cities. Not only can this model be implemented as a programme but the thesis also aspires to allow the framework to be adaptable enough to implement into the general shift of the educational context. Both the selection of the location and site to be considered based on the following criteria.

Location

Capital city with a decent level or urbanised context

Diversity within the demographic of the community

Attracts several national and international tourists

The city exhibits a creative culture

Site

Accessible to the wider community and wider demographics

Surrounded by culture-rich facilities

Has the opportunity to be enhanced

4.2 Site Establishment

Location: Wellington City

Selected to be the capital city of New Zealand in 1865, Wellington city has been described as the 'Creative Capital' as well as 'the coolest little capital in the world'. Achieving the stated criteria, Wellington has been selected to help accommodate the development of the framework. Specifically, the Wellington city central area displays the suitable characteristics to apply the framework for a new cultural centre.

The Wellington urban area has a population of 215,400 residents as of June 2019. With a frequent number of festivals, outdoor exhibitions and community provided activities, Wellington city is a location that houses a wide variety of demographics and attracting a range of national and international tourists. This culture-rich site will allow the

development of the framework to be challenged by its existing surrounding. This includes the existing cultural facilities such as the city gallery, library, and the Te Papa museum. This, however, will not be the only component that will shape the development of this framework. The challenging component will also be the urbanised nature of the capital and along with it designing a cultural facility that can accommodate for the vibrancy of its occupants.

Figure 31 Wellington CBD location map

Location: Possible Sites within Wellington

1 Gordon Wilson Flat

Now owned by the Victoria University of Wellington, the Gordon Wilsons flats is a heritage-listed building planned to be demolished re-established as the 'new front door' to the university's main campus. The building is currently standing with only 4% of the building code, which would be more beneficial to be reconstructed for other purposes.

2 Reading Cinema and Entertainment Centre

Closed down due to earthquake deficiency, the building has the potential to be retrofitted or redeveloped for a new community-oriented purpose. Situated in a prime location for public accessibility and is already a well-known gathering hub, the entertainment facility has the potential to be adapted and explored in another programmatic setting.

3 Tory Street Carpark

Branched to the east of the Reading Cinema complex, the open car park space has a high potential to be developed with the application of an alternative programme. A new proposed programme that allows for community exploration, interaction and socialization can highly improve the efficiency of the spatial usage of the city.

4 Victoria University Te Aro Campus

Provocatively, this potential site can be criticized and reimagined with a new programme that may suggest a better improvement for learning taking place within. The location also provides a suggestion for a creative demographic that can also be studied. Requiring earthquake strengthening, the possible site also has the potential to be retrofitted.

5 Reading Cinema Carpark

Located to the north of the Reading Cinema, this possible site is an empty car park that has high potential to be improved for better use. Located on one of the main roads nearing the nation's major cultural facility, Te Papa, the site also has the potential to gauge the interaction of the community-based programme concerning the study.

Location: Selected Site

6 Open Carpark on Cable Steet *Conventional Centre - underconstruction*

Selected as the location for the new Wellington Convention Centre designed by Studio Pacific, the location is undoubtedly noticed to be a successful location for a community-based programme to be developed. Situated directly opposite Te Papa museum and the Wellington waterfront, the established programme for this research may also adapt the understanding of the surrounding demographics. This includes people from the community as well and national and international visitors.

Figure 32 Wellington cultural strip analysis, isometric diagram

Figure 33 *Wellington selected site map*

4.3 Site Analysis

Location: Wellington City

This research aims to develop a model framework for an architectural assemblage that provokes the essences of learning with the intention that it can be adapted and be used as a guideline for designing educational architectures. Thus, the site selection of the research investigation is required to illustrate a sense of community, diversity, connection and complexity. Whilst the Wellington city of New Zealand is known for its cultural density and artistic diversity all around, it is still critical to select a site that displays and intensifies these criteria with its location.

The selected site has been chosen to be the location for the new Wellington Convention Centre. The selected site is located in a culture and arts-rich area of the capital. Whilst

surrounding by a high level of urbanization, the site maintains a nourishing level of the cultural and recreational surrounding. With the national museum Te Papa directly across the road in the north, the selected site has a high potential to develop and be influenced by its cultural and educational essences. Along with this, the site is located in an area that attracts a high level of community, national and international visitors, this is a good location to explore the framework.

There are many opportunities around the selected site to be considered for future development, including the Reading Cinema (site option 2) and its surrounding car parks (site options 3 and 5). For the design exploration, this component of the expansion

of the programme will not necessarily be a huge influence.

On a grand scale, the selected site has a few components to be considered in terms of potential threats. Whilst it is a benefit for the site to be located between two heavy flowing traffic for its ability to have multiple access points, it must be considered that pedestrian access will need to be designed with considerable care. Other points to keep in mind concerning design on the site is the visual and programme influences of the surrounding buildings. On both sides of the site are apartment blocks 10 levels high. This height difference is to be considered when composing the overall form.

Figure 34 *Selected site collage, taken from Te Papa*

Environment Analysis

General Information

Total Site Area: 6229.17m²

Wind Zone: Very High

Corrosion Zone: D

Figure 35 Selected site existing map

Sun analysis

The majority of the site is exposed to the sun directions throughout the day. With the wider opening end of the site facing the Te Papa plaza and view shafts to the waterfront, the northern area of the site is opportune to be developed into an outdoor plaza or communal area. The development and exploration of outdoor-based programmes in this area will be beneficial for the framework.

Wind analysis

Wellington's windy nature is caused by the two northerly and southerly prevailing winds. With open shafts from the Waterfront in the northwest direction, it is crucial for the design of the outdoor area in the northern direction to consider windbreaks.

Figure 36 Sun and wind diagram analysis

4.4 Programme Criteria

Proposition

This thesis aims to develop a model framework that can be integrated and adapted by any other programmes or architectural designs to establish an architectural assemblage that provokes the essences of learning. The development of a sample programme for the research is to accomplish certain criteria to allow the exploration to be wide-ranging enough.

The current facilities are designed based on formal educational programmes as the current researchers and designers aim to 'solve' the issue through a rather 'static gaze' with designs based on static researched models of behaviours and outdated architectural typologies. Therefore, with the perception for architecture to express and provoke the established

essences of learning, to address the issue of the shifting context, a new building typology must be explored – the programme established for this thesis has to challenge the way the 'facility' is to be used, thus it must accommodate a 'freeing' programme that allows for expression.

The idea is for the developed model framework to be suitable to be implemented by cultural facilities, general educational facilities, interactive general community recreational spaces, as well as school facilities. Thus, the established programme used for this research is to be founded with an 'open demographic' plan. This is to ensure that the design explorations consider all age groups, cultural, backgrounds, intentions etc. of its users, while also have a clear focus of the intention of the research.

While it is to accommodate for a wider range of demographics, it must also invite the actions of embodiment. Through the understanding of the Māori view of 'Ako', the essence that education does not limit anyone to be the teacher or learner. Thus, the proposed programme is to have clarity that the established design is open to all.

One common essence emphasized within all Māori educational strategies is the idea that they encourage learning to be a process that brings people together (Van Meijl, 2008). The sense that education is a process of growth that is encouraged collaboration with another, as stated within the literature review, thus it is implacable for the scenario of the programme to encourage interactions of the community.

CRITERIA

New architectural typology that accommodates the established performance criteria (see in the literature review)

Open demographic' plan.

Invites engagement and embodiment

Provokes community, collaboration and cooperation

Integrates principles relating to 'the idea of practice'

4.5 Programme Case Study

Makerspace Programme

Many practice based educational programmes have been developed as the educational context moves away from its old scheme and many scholars and researchers recognize the significance of the integration of practice into the educational system.

The Makerspace programme is an educational scheme/template developed to be integrated into secondary schools, creating collaborative hands-on learning experiences. The programme established series of modules of practical activities such as electronics, woodwork, metal works etc. Providing a flexible work environment that constructs problem-solving and practical skills.

The key factor within the establishment of these

modulated activities is an acknowledgement that it is difficult to create a 'one size fit all' framework, as each Makerspaces are reflective of the activities intended as well as the interaction of the 'learners'. Providing guidelines to the types of equipment needed, for which kinds of activities and how many pupils they support, the framework developed a kind of an a la carte approach.

For this thesis, the schemes established within this case study will be extracted in relation to the types of activities they intend to provide for. The types of activities will be used to establish the thesis's initial programme.

Programmes provided for my case study:

- General workshops
- Wood Work
- Metalwork
- Wet work
- Spray booth
- Robotics
- Laser cutting
- 3D prints
- 3D modelling

4.6 Initial Programme Establishment

Identification of Possible Programmes for Exploration

Initial possible programmes constructed based on influences of the Makerspace framework combined with ideas of types of programmes that may allow for collaborative and explorative informal activities.

Figure 37 Initial programme establishment brainstorm

Established Programme for Preliminary Design

WHITE ZONE

Multipurpose
Trance space (silent)
Trance space (audio)

Group
Workshops
Still life Rooms

Individual
Personal bubbles (silent)
Personal bubbles (audio)

Reflective circulations

BLACK ZONE

Multipurpose
General exhibition
Gallery

Group | Individual
Lights labs
Audio Labs
Photography Studio
VR Studio

GREEN ZONE

Multipurpose
Exploration trail
Community Garden
River trail
Amphitheater

Group
General labs
Physical works
Clean room

Individual
Personal bubbles
Personal bubbles

BROWN ZONE

Multipurpose
Earth space

Workshops
Modella / CNC
Wood work
Metal work
Wet work
Spray booth
Robotics
Laser Cutter
3D printing
3D modeling

Group | Individual
General labs
Physical exploration
Advanced exploration

RED ZONE

Multipurpose
Theatre cinema
Performing circulation
Gallery

Group | Individual
Rehearsal Spaces

RESOURCE CENTRE

LEARNING CAFE

DISCOVERY CENTRE

COMMUNITY GARDEN

PLAZA

4.7 Conceptualisation for Programmes

Initial Programme Allocation Concept One: Analogue and Digital Separation

“Māori educational strategies are not mutually exclusive, but they occur in varying combinations” (Van Meijl, 2008)

Conceptualisation to physically allocate initially composed programmes according to their similarities of exploration styles and the types of tools they may require. Separated into two categories of analogue building and digital building, the programmes and their intended functions become the component that influence the spatial allocations and thus the design.

This, however, loses the intention of assemblage within the design as well as neglecting the sense of collaboration within the different learning disciplines. The allocations and/or

composition of the programmes are to allow organic and natural transitions of the occupants' movements, expression and activities. By not only categorizing the programme but physically separating them into facets, this suggests the separation between the learning material and prevents the architectural assemblage that would achieve the criteria of observation and reflection. Along with this, programme allocation option also limits the opportunity to achieve the criteria of curiosity, sensory and expression as the assemblage is restricted.

Figure 38 Programme allocation first concept

Figure 39 Programme allocation first concept planning

Figure 40 Programme allocation first concept section

Initial Programme Allocation Concept Two: Experiential Zoning

Figure 41 Programme allocation second concept brainstorm

This programme allocation option intends to integrate and merge the programmes in a more meaningful way. The idea is to compose a 'zoning' system, this allows the programmes to be partially categorized while creating a 'learning through journey' narrative to spatial allocations.

Separated into 5 zones of; Red, Green, White, Black and Brown all established with the intention for the development of the design to be better heighten the senses. As each proposed zone represents a different atmosphere and ways of embodiment:

- Red Zone**
Performance: an exploration of the movement of the body
- Green Zone**
Nature: an exploration of the natural environment
- White Zone**
Reflection: an exploration of self
- Black Zone**
Digital: an exploration of audio, light, and digital world
- Brown Zone**
Analogue: an exploration of metaphysical and practical work

Figure 42 Programme allocation second concept sketches

Initial programme criteria development

Figure 43 Initial programme criteria development

Figure 44 Conceptual sketch for green zone

*“Māori educational strategies are
exclusive, but they occur in all schools.”*

(Van Meir)

*ategies are not mutually
in varying combinations”*

ijl, 2008)

5

PRELIMINARY DESIGN

5.1 Designing on the Site

5.1.1 Process: Site components influential to the design composition

To begin the process of preliminary design exploration, it is common to begin with indicating the 'big moves' concerning the characteristics specific to the existing context. These major influences will allow the design to better fit into its surrounding and potentially heighten or improve its existing circumstances.

Figure 45 Influential site components analysis, diagram map 500m radius

5.1.2 Process: design decisions and strategies based on surrounding influences

Providing an external plaza to the front of the site to draw the surrounding community (pedestrian) from the waterfront and spatially connect the design to Te Papa.

Provide pedestrian connections through the site. Linking access between Cable street front and Wakefield street front. Connecting pedestrian flow from two main roads as well as providing a connection from the waterfront to the city.

Building up the height of the surrounding buildings to allow visual connection and refer to the visual context of the surrounding.

Figure 46 Preliminary design 'Big moves'

Figure 47 Sketch conceptual design big moves

5.1.3 Process: Form Exploration

Influenced not only by the major site components that directed the decisions for the design's 'big moves' but the context of the site's immediate neighbouring buildings is also a major factor to influence the overall form. Integrating the overall building heights as well and how they are composed within the given boundary. This is to maximise the site's full potential within the boundary, the overall form of the design to amplify the efficiency of space usage within the allowed volume. This stance of the design process considers not only how the overall form might be influenced, but how this established form could be composed to allow the design to become a unique landmark within the city context.

Particular form influential components include the height of the immediate surrounding building, the sun directions on the site, street fronts, required coverage or pavilion areas.

Figure 48 Conceptual preliminary design sketches, form exploration

Figure 49 Conceptual preliminary design sketches, form exploration

Figure 50 *Preliminary design from Te Papa carpark*

5.1.3 Process: Form Exploration

Figure 51 Preliminary design form development

Figure 52 Conceptual sketch, observation and reflection through circulation

Pedestrian connection:

This public connection will invite the surrounding wider community to 'utilise' the site as they take their short cut. The achievement of a pedestrian path will allow the flow through the site to slow down, thus allowing the chance for observation and reflection from the surrounding community. This sense of observation and reflection not only allows learning to extend beyond the indicated learning spaces but also allows the surrounding community to become part of the assemblage of the communal learning environment as achieved by the sense of performance.

As pedestrian access is allocated through the ground floor of the building, separating the floor plans into two separated spaces, an issue may occur concerning the openness. This enclosed 'path' can cause the space to feel too intimate, thus may indicate that it is a private pathway. To improve this the design iteration explores ways of creating complexity to the horizontal composition through the addition of curvature which generates alternating compressed and exposed spatial quality. These added spatial complexities will create a sense of curiosity for the surrounding community to approach.

Figure 53 Observation and reflection through circulation in preliminary design

5.1.4 Process: Ground Floor Exploration

Figure 54 Preliminary design ground floor development

5.2 Conceptual Spatial Allocation

5.2.1 Theory for Spatial Arrangements for cultural facilities

To begin the process of preliminary design, the exploration is to approach the programme allocation with an alternative strategy. The alternative 'facility' is to be used by the wider community like general cultural facilities. The strategy to approach the process of allocating programmes is to be influenced by the theoretical strategies applied by general cultural facilities to maximise user experience. Concerning the specific question within this thesis of assembling the architectural environment to heighten the experience of learning, the study of spatial arrangements for cultural facilities will benefit the aspect relating to performance in terms of spatial composition and circulation.

1 *Open Plan*

Allows for free circulations, spatial divisions are achieved by creating branches of 'rooms' or alley ways.

4 *Labyrinth*

Allows for free circulation, whilst maintaining separation between exhibited displays. Displays can be themed and associated accordingly.

2 *Linear Chaining*

Allows for sequential circulation and ordering of exhibition. Clear orientation leads to 'story telling' style displays.

5 *Main and Side*

Spaces can be categorised without strong association. Displays can be hierarchical between the major and minor spaces.

3 *Round Tour*

Provokes similar effects as linear chaining, whilst allowing for reflection on displayed exhibition. Entrance and exit can be in the same location.

6 *Complex*

Allows for combination of display types, combining layouts styles to achieve appropriate observation ordering for specific displays. This style of spatial organisation also allows entrances and exits to be separated.

Figure 55 *Spatial arrangement theory for cultural facilities*

5.2.2 Process: Applying spatial allocation concepts to established programme

Exploration of how spatial allocations of programmes affects the circulations concerning achieving the desired hierarchy can be integrated into the design process to allow better precision and direction of attention. Spatial hierarchy can be better directed in terms of the requirements for privacy or community. Concerning the theory of performance, the understanding of spatial allocation can allow a sense of performance, thus achieving the performance of interactive observation and reflection.

Figure 56 Spatial allocation bubble diagram explorations

Spatial layouts and relationship explorations

Main and Side

Main and Side

Open Plan

Round Tour

Complex
1

Complex
2

Complex
3

Minor spaces are allocated to allow the major spaces to be formed. This is done similarly to the Kanagawa Institute of Technology, where by the structures used to form smaller 'personal zones' are replaced with minor spaces.

Figure 57 *Spatial allocations three-dimensional exploration*

5.3 Designing Connections

5.3.1 Conceptualisation of circulations in relation to spatial arrangements

To achieve the sense of visual interaction through observation and reflection, this area of exploration is to be achieved through the architectural composition both vertically and horizontally. As evaluated in the case study section, the Fuji Kindergarten designed by Takahary Tezuka is an example of how the architectural composition has achieved this integrated assembly for both the social and physical interaction of the learning.

Figure 58 Observation and connection from circulation idea

Figure 59 Observation and connection from circulation idea

Figure 60 Layers of spatial composition for observation, reflection, curiosity

5.3.2 Development of Connections through design (open voids and circulations)

Figure 61 Section of circulation within preliminary design

Figure 62 *Preliminary interior, visual connection and circulation*

5.4 Preliminary design Critique

Figure 63 *Street edge ground floor interior*

Ground Floor

While the integrated design of the amphitheatre within the plaza space allows for better spatial division and hierarchy within the open space, it can maybe limit the spatial usage for multiple activities. While the scale of the amphitheatre may allow for more intimacy within an open and exposed environment, it may not accommodate to adapt for a larger crowd or more complex exhibition or gathering. Developing complexity to points of entrances can better influence the impression and experience of its occupants on the architectural spaces. While the designed entrances are easily navigated, which is beneficial for a developing public 'facility' to have, it has limited its ability to provoke the sense of curiosity, personal expression and kinetics. To further develop this idea, the development process can consider adding complexity and explore an alternative to developing more playful and interactive entrances.

Figure 64 Preliminary ground floor analysis and critique

Figure 65 *First floor open exploration spaces and open atrium*

Figure 66 Preliminary ground floor plan

Figure 67 Preliminary first floor plan

First Floor

Further development is required on the street front of Wakefield street. This area of critical summary refers to the verticality of the design from the ground floor through to the fifth. As reflected on the ground floor, other than the pedestrian access through to Cable street, the design of the street front in this area lacks the sense of interaction and influence of experience. This building front has been designed with little allocation of external programmes as this boundary front is south facing which is not beneficial for external activities due to the environment. To move forward, explorations are to consider how architectural complexity (physical composition, materiality etc.) can be added to this area of the site to increase the level of experiential, embodiment and interaction of the space. This area of development will also allow the 'welcoming and belonging' sense to be integrated into the design.

Illustrated by the stepping internal amphitheatre/circulation/spatial division, this simple architectural composition of the ground plane is a successful strategy of a playful development that can be integrated into the architectural composition that will have a positive influence on the overall assemblage as it stimulates interactive and playful environment with space.

Figure 68 Preliminary first floor analysis and critique

Figure 69 Preliminary second floor plan

Second Floor

As the design has been developed with high influences of the programme concerning its allocations and interactivity to one another, a low level of details and attention have been placed upon exploring how the architectural components themselves can be developed to better accommodate for the embodiment and experience. Many allocated spaces within the design have been placed in relation to performance and observation, however, the design lacks the experiential elements. An example of this is illustrated within the treatment of the 'threshold' (understood within this thesis as the architectural component between 'spaces'). Allocated on the second floor of the facility, the spaces intended for active exploration and learning are allocated on the perimeter. This is with the intention for visual conversation to provoke between the space users and the surrounding occupants, thus the use of transparent material was chosen for the threshold treatment. While this accommodates for visual connection through transparency, it has failed to provoke a sense of embodiment and experience within the space.

Figure 70 Preliminary second floor analysis and critique

Figure 71 *observation of open exploration from second floor in atrium*

Figure 72 observation of green zone from second floor in atrium

Figure 73 Preliminary third floor plan

Third Floor

While spaces have been allocated for specific purposes, the internal spaces lack the sense of personal expression in terms of allowing their occupants to utilize the spaces in personal ways. The formality of partition walls to create spatial division indicates a limiting function in terms of personal expression. Whether the partition element provides a visual connection through transparency or not, the sense of creating a 'room' indicates a sense of formality for specific usage. This may be influenced by visual, audio or atmospheric differences. For the next stages of development, the exploration is to consider of these divided spaces may compose more of a 'nook' or experiential moments that can be utilized personally or communally.

Figure 74 Preliminary third floor analysis and critique

Figure 75 *Outdoor balcony and open exploration on fourth floor*

Figure 77 Preliminary fifth floor plan

FOURTH FLOOR

balcony runs length of facade down
to allow for connection to wadding park,
through to the water front.

exterior programme (flexible experimental) space
allocated to allow for diversity & exploration
environment.

+ the diversity in the integration of exterior space on the building programme has proven to
be successful to allow for engagement to the under surrounding & connecting through the
viewing platform.

balcony edge
above lower level
balcony - allows
vertical interaction

hard balcony

NTS: this similar outcome
can be concluded for most
of the space within the
'facility'. the 'programme'
has been given more
emphasis and
prioritised over the
experience which is
dictated by the smaller
scale elements.

NTS: However with this design, it
has only been treated as a
programme the idea has
been implemented into the design
to the micro scale themselves.

open atrium traces down
through the vertical opening to the
first floor. this opening aims to allow for
direct circulation connecting the vertically to
be the viewing platform that can provide observation

the provided architectural component seems to be providing
more for observation
& reflection... and not enough
doing

NTS:

what are the
architecture that
provoke action.

* literature: performance
architecture.

Case study → Extract particular
features!

- How do they work!
How is it going to be implemented.

FIFTH FLOOR

Initially intended for the 'white zone'
this zone is allocated at
the highest point of the 'facility' to allow
the 'observation & reflection' to be most isolated by
the 'observation & reflection' to be most isolated by
the 'observation & reflection' to be most isolated by

- workshop spaces
would be used as a
quite space that allows for collective
meeting/gathering for reflection

↳ this 'zone' is not clear

① as the 'workshop' are all provided
the same atmosphere & environment.

⇒ differentiate between the spaces for action
as to the space for reflection.

White as a Rest.

② Does the space need to be 'zoned'?

- zoning is causing the programme to be
complex and losing the intention of creating
an interactive space.

- zoning is isolating the spaces that is put into
the programme to be observing - thus usually
connective, but the programme is isolating
& causing difficulty to connect.

⇒ the 'facility' is physically too large to develop
interactivity & connectivity - specifically to
this thesis.

Rethink Programme

→ what is actually
required to develop the
framework

→ what are the single
elements that can be
integrated that is
not a 'space'

Design the threshold &
its elements!
not the 'spaces'

Figure 78 Preliminary fourth and fifth floor analysis and critique

Figure 79 Interior space with open visual connection

Figure 80 *External amphitheatre in plaza space*

Figure 82 *Amphitheatre*

Figure 83 *Ground floor pedestrian access from Wakefield Street*

6

CRITIQUE AND SCOPE REFINEMENT

6.1 Overview

Evaluation and Critique

The research and exploration have developed a successful foundation of the background context and its shift. It has established clear motivation leading the research with understanding to the transition that learning is not necessarily always reliant on teaching. This acknowledgement allowed for clear identification that the issue focused by this research is not necessarily the implementation of the 'essences of learning' into the education system, but to understand its principles to allow the architectural design to enhance the embodiment of experience, individuality and accommodate its ongoing process.

Along with this, the research has identified clear architectural 'gap', which is the issue of the lack of allowance for an

embodiment within the architecture within an educational context. The gap of pre-existing research to combat the identified issues were critically reflected and developed to construct a provocative strategy to drive the thesis. By critically evaluating pre-existing designers and educational researcher's aims and strategies of responding to the contextual shift, the 'gap' was established with an alternative proposition to tackle the issue. These alternative propositions allowed a creative strategy to respond to the identified issue by looking at an alternative method.

Through critical evaluation, while the identification of the context, contextual shift, gap, and proposition of design approach have been established, there has not been a smooth transition

between the gathered understanding of the research and translating this into the design process. This is exemplified within the preliminary design and its process as it fails to reflect and integrate solutions that respond directly to the identified issues. The first exploratory research through the preliminary design phase has been highly influenced by the knowledge gained through the selected site, its analysis, and the established initial programme constraints. Thus, the exploration process has neglected the objectives to a key component of 'assembling the architecture' to provoke and enhance the essences of learning as established.

Refinement Proposals

Two key improvements can be altered to the process of the design research. These points of refocusing will allow the next stages of research and exploration through design to be more precise and more specifically directed towards the issue:

1. Have higher precision to a more refined scope to allow the clearer direction of design exploration. The exploration should be able to respond directly to the design and performance criteria established based on the evaluation of the 'essences of learning'.

Identify and narrow down the intention of the selected site. As the purpose of the research is to allow the architectural assemblage to accommodate the embodiment of its users, priorities must be set to be more specific in relation to 'what is necessary and will affect the overall result of the assemblage as experienced by the 'body'?

Review and refine the established initial programme and the level of prioritization placed on how it is allocated. To allow a better focus on developing a personal connection of architecture to space, the significance of the specific programmes can be 'downplayed'. This is also due to the intention that the research is aimed to compose a framework model for assembling architecture that provokes the essences of learning, that can be adapted by any cultural, educational or community architectural designs. Thus, allocating specific programmes to the design explorations will dilute the focus of exploration from the identified issue of interaction and embodiment.

Identify what is being designed as a context provider to allow the exploration to have a sense of clarity. This is to be done through the exploration of the 'name'. By providing the exploration a 'name' will generate what kind of embodiment of the architecture is expected to take place as well as the demographics.

2. Further development is needed in terms of design strategies and specific exploration strategies. Re-establish a new understanding and definition of the design criteria to generate an alternative strategy of design exploration based on the refined scope.

Form

Visual language & façade

Composition of embodiment

Material and surface treatment

How the composition of the criteria responds to the usage.

*“Whatever people do, there is always
a teaching point in it”
(Van Meijl, 2008)*

6.2 Overall Scope Refinement

6.2.1 Site

Rather than adapting to site, what can the design add in?

Upon reflection of the overall process of researching through design, it can be noted that refinement is required concerning the site, programme, and clarification of the purpose of design itself. The current preliminary design, in relation to the site, has taken on a standard approach to the design exploration where the design process is influenced by general site components such as pedestrian, traffic flows, sun and wind directions etc... While these components are crucial to the design process, it does not help to develop an alternative architectural design to provoke the essences of learning as it does not implement challenging strategies and question the approach.

While maintaining the knowledge gained from the site analysis to influence the built environment and part of the spatial compositions, new questions are required to realign the design exploration. One of the key components to acknowledge about the site is the aspect of the surrounding neighbouring buildings, which can influence the design through means such as forms, programmes, façade etc. The selected site is surrounded by apartment blocks with dramatic heights as well as major commercial buildings. In turn, this has influenced the preliminary design to adapt to its surrounding context by mimicking its scale. While this may have allowed the design to 'blend' into its context, it has proven to be unsuccessful in achieving the established

performance criteria. More specifically where the design required to respond to its usage in terms of purpose and demographics. While the design has achieved the scale required to 'fit in', this large form has proven to illustrate a sense of power and hierarchy. The physical compositions and visual language have not successfully indicated a sense of 'welcoming' for the community to feel invited. Through reflection with new perspectives, three strategies have the potential to improve the exploration.

An alternative question is asked that will guide the designs response to the site. Rather than exploring 'how can the architectural assemblage be designed to smoothly adapt to its urban context', it is more a matter of questioning 'through this contextual shift, how can the assemblage of the architecture

contribute to add to what is missing from the urban context to enhance its ability to provoke the essences and experience of learning.

The neighbouring buildings undoubtedly fit under the description of disembodiment within the architectural composition. Thus, it is clear that it would be counterproductive for the design exploration to aim to match its surrounding's design characteristics.

By evaluating its current characteristics and the surrounding city fabric, the research can indicate what the missing components are for the design to achieve the performance criteria. Thus, allowing the design exploration to become more accommodating to achieving the performance criteria. By doing this, the exploration allows the

architecture to become the very tool that accommodates the essences of learning through demonstration and embodiment. This is with the aim that the design exploration can enhance its existing context and complement it to provoke the sense of personal exploration, expression, interaction and curiosity to its occupants.

Analyse the site's sense of community, civic, and culture.

The analysis draws out the features of the surrounding context's ability to accommodate for the cultural and civic expression of the demographics. Taking note, the architectural features that allow for adaptability of space to respond to the usage of its occupants; from spatial compositions and ground planes through to materiality of surfaces.

Features such as stepped ground levels provide differentiation between open spaces without separating them into 'rooms'. Material choices for the ground plane that allows for efficiency to adapt, use, and maintain. Integrating static edges to provide slower moments allowing for observation.

Figure 84 *Surrounding site community, civic and culture*

1 Civic Square
'The eye of the Fish'

Figure 85 *Civic square*

2 Te Papa Plaza
National Museum

Figure 86 *Te Papa Museum*

3 Cuba Street
Cultural and Commercial

Figure 87 *Wellington Cuba Street*

4 Waitangi Park
Recreational Park

Figure 88 *Waitangi Recreational Park*

5 Te Aro Park
Community Park

Figure 89 *Te Aro Park*

Analyse the site's scale that is relevant to the embodiment of its occupants on a personal level

Figure 90 Site immediate surrounding neighbouring buildings

Facing the selected site, the building surface of this apartment block has a low level of windows. However, these windows are located within the living spaces of the apartments, which can benefit from the development of the design. Along with this, the design can also be observed from some of the balconies of these apartments.

With unique window features, this neighbouring building features window openings right onto areas that are noted to be the more intimate regions of the entire site.

The building surface facing the selected site of these apartments block has features of small vertical windows that suggest areas of vertical circulations through the apartments. While this is a replaceable feature of the existing building that can allow the design with the opportunity to disregard within the design (able to be covered up), the design exploration will consider these features as opportunities for improvement. ⇐

Analyse the site's surround 'green' spaces

Figure 91 *Surrounding site green spaces*

Analyse the view shafts relevant to the experience within and around the site.

Figure 92 View shaft to waterfront from selected site

Surrounding visual language and materiality

Figure 93 Visual language from surrounding community, recreational and civic spaces

Analyse of New Zealand visual language

Figure 94 *Te Wharewaka O Pōneke, visual language analysis*

Toi o Tāmaki Auckland Art
Gallery

Figure 95 *Toi O Tāmaki, Auckland Art Gallery, visual language analysis*

6.2.2 Programme

Another strategy to be implemented within the new refined scope is the re-evaluation of the established programme. The design exploration aims to establish strategies of how the architectural space could be manipulated rather than just being occupied to establish ongoing, personalized experiences. As the idea is to allow the occupants to manipulate the architectural assemblage through their actions to create their individualized experience, a proposed component to be added into the refinement of scope refinement is the filtration of the established programme. The programme refinement must limit and eliminate the initially established programmes that do not stimulate the sense of physical manipulation of the space and introduce new programmes that have a higher potential for interactivity to

allow the design exploration to accommodate a more interactive environment and to achieve the performance criteria.

Refinement of existing programmes

Figure 96 Programme refinement brainstorm

Refined Programme

1. Exhibition & Gallery

2. Informal meeting & Exploration

3. Network & Connection

4. Open theatre & Performance

5. Mural Art Walls

6. Multipurpose Frame

7. Natural & Greenery

8. Adaptive Workshops

9. Civic Plaza

relating to the duties or activities of people in relation to their town, city, or local area.

Civic Plaza

a public square, marketplace, or similar open space in a built-up area

Figure 97 New refined proposed programmes

Network connection and Nature and Greenery programme integrated concept

Naturescape by Kengo Kuma

Figure 98 *Naturescape by Kengo Kuma*

Multipurpose Frame programme concept

Waterfront movable timber posts

Figure 100 *Legalgraffitiwall at wellington skatepark*

Figure 99 *Multipurpose frame idea, waterfront timber posts*

Mural art wall programme concept

Wellington skatepark legal graffiti wall

6.2.3 Naming the proposed design

Name to influence the design, rather than design influencing the name?

Within the refinement of the programme, another alteration to make is the consideration of the 'name'. By imitating the scale with the attempt to adapt the design to its surrounding, the outcome of the explored design has proven to achieve a sort of formal ambience. The outcome of the preliminary design has influenced a tone that the 'building' is a 'facility' through its grand scale and spatial layouts, thus giving a sense of formality and conventionalism. This sense of formality suggests an alternative purpose for the 'building', which was not aimed to be achieved by the performance criteria. The formality of the preliminary design gives an impression to the wider community and its occupants that the 'building' is intended to be used for a

particular purpose or have a dedicated demographic to serve. The threshold of the façade itself constructs a literal barrier that divides the surrounding community to the established programme. This is the unsuccessful achievement of the performance and design criteria to assemble and integrate the design into the community.

While the aim is to integrate and assemble all components of the architectural constructs to establish experiential, individualized and ongoing essences of learning, the grand scale along with its thresholds have the consideration of performance and design criteria. A strategy that can be implemented to redirect the design exploration is by 'giving

it a name. Just as the use of a 'facility' might indicate a sense of formality to how space is used, by allocating a more specific 'name' to what this 'building' is to become, the exploration could be better directed. For example, the exploration of an open educational park, complex, open school or square, would all have alternating results concerning design. While trying to achieve the essences of learning (experiential, individualized and ongoing) developing a clearer purpose to the exploration by allocating the design a name would better precise to exploration.

The name is to communicate the idea of embodiment and experience of learning through architecture. That learning is not about the destination, but the journey.

Te whakatinanatanga o te ako

The embodiment of learning

Exploration Park

Te wharenui o whakatinanatanga o te ako

The meeting house for the implimentaiton of learning

Whakaako

Education, teach, train

Kaiwaewae

Pedestrian

Ahare

Culture

Playground

Invention Park

Haere

Journey

Learning Hub

Learning Park

Hau

Essence - inner nature

Wheako

Experience

Hapori

Community

Ako

Learning

Matauranga

Knowledge

Whakatinanatanga

embodiment - implimentation

Production Park

Creation Park

Te papa hei whakatinana i nga akoranga

The platform to implimnet learning

Wheako o te ako

Experience of Learning

Exploration Park

Figure 101 Name of design, brainstorm and establishment

6.3 Exploration Strategies Refinement

Summary of analysis and critique against design criteria

	Form	Visual language & façade	Composition of embodiment	Material and surface treatment	How the composition of design criteria responds to the design usage.
Design Criteria	The effects of the size and scale of the building along with its shapes and footprint	How the design reflects and represents its location and demographics and communicates symbolically what the architecture is for. Overlay and complexify the visual language through patterns and textures	<p>Circulation: consider the circulations as a 'space' that is part of the whole composition</p> <p>Landscape: challenging the typical character of the cityscape</p> <p>Movement: assembling and challenging movement through the ground plane</p>	<p>Integrate materiality so that it may assist the performance criteria</p> <p>A simple and minimal selection of materials within the overall composition</p>	Understand the spatial usage (programme) in relation to the nature of the activities and the occupants to accommodate the atmosphere (level of intimacy needed, informality, exposure etc).
Refined Proposition	<p>Consider how the form communicates or affects the 'name' of the design? What is this place used for?</p> <p>Reconsider how else the design can respond to the surrounding context other than through building footprint and scale (building up to the height etc.).</p> <p>Consider alternative façade treatment that can be integrated rather than trying to match and blend into the context, consider what the context is missing that can be introduced by the design.</p>	Discover what the key characters of the contexts are. What the characters of New Zealand cultural and public architectures look like? How are they represented?	<p>Changing the perspective that interactions to surrounding community can only be achieved from the boundary front and put more emphasis on providing this interaction throughout the site.</p> <p>Consider the possibilities of achieving visual communication to the occupants of the existing context – integration of visually accommodating elements such as windows and balconies of the existing site and allow the design to use these features to include surrounding communities into the assemblage.</p> <p>Challenge how else can the 'pedestrian access route' be more than just a circulation path. Allow it to become part of the 'composition of embodiment'</p> <p>Consider all of these design components not only as means of providing accessible routes but allow them to become the 'spaces' that provides experience.</p> <p>Challenge the means of 'movement' of the ground plane through other 'planes' (ceiling, walls, roof etc.)</p>	<p>Consider alternative ways materials can be composed or integrated to achieve the required performance.</p> <p>Consider how the decisions and compositions of the materiality of both internal and external surfaces to be utilised (based on the additional programmes and their purpose)</p>	Consider alternative strategies of exploration of 'how the architecture itself may be assembled to enhance embodiment and experience of its occupants' – step down all the other components relating to architectural design that may distract the exploration. Then bring back the specific components relating to learning through practice – in the form of a programme to indicate how the programme of embodiment and experience might be utilized within the learning environment.

Figure 102 *Exploration Strategies Refinement table*

7

DEVELOPED DESIGN EXPLORATION

7.1 Site

7.1.1 Big Moves

Closely reflective of the previous preliminary design stage, the influences within the development of the design's 'big moves' and 'circulation' are related to the major components of the existing context, such as the surrounding open spaces and its programmes. Unlike the preliminary design, however, the development in this area will challenge the emphasis on the influence of surrounding building scales and forms.

Within the development of the design, four major aspects are guiding these 'big moves' (with some carried through from the preliminary design stages); the two street fronts on Cable Street and Wakefield Street, the rear building set back of the apartment to the north-west of the selected site, and the courtyard of the apartment on the east of the selected site. These notable features of the

immediate surrounding context can be expressed as the 'major thresholds' of the selected site. These major thresholds are the edges of the site boundaries with the potential for interactions beyond the design. It is the region to be considered when constructing the assemblage and complexity with the integration of the surrounding demographics as well as its contexts.

The aim of achieving the performance criteria of curiosity, sensory, expression, observation, and reflection, kinetic, and response to usage are to be achieved within these 'major thresholds'. This is to achieve the performance criteria through its ability to create the layers of complexity within its architectural compositions.

The key characters to note within the influences of design decisions are the level and types of exposure. These opportunistic levels of interaction that the areas are capable to offer as compared to the rest of the site are;

- 1.the street fronts and
- 2.the apartment courtyards.

The two street fronts as compared to the apartment edges are more exposed to the wider surroundings, thus will attract more undirected gauge and more variety of demographics. The design development and compositions are to be established accordingly to these gauges, thus the composition of the street fronts is to be more open and welcoming, all the while integrating personal moments.

1. Major surrounding influences

2. General form allocation based on major circulation intended

3. Development of spatial allocation based on major surrounding context.

Figure 104 *'Big moves' design iteration*

7.1.2 Immediate Neighbouring Buildings

An alternative strategy that can be explored in terms of allowing the design to integrate into the existing context while enhancing its users experience both externally and internally, is through enhancing the experience created by its existing architectural components. Through the analysis of the existing site scales that are relevant to the embodiment of its occupants on a personal level as defined in the previous chapter, further exploration of design is explored. Taking the architectural components relating to the performance criteria of curiosity, sensory, and observation and reflection, the next area of design exploration and development is identified.

More specific to the selected site context as previously analysed, the window edges and balconies of the neighbouring buildings can be integrated and used as

a starting point of the design exploration. The key question of; how can the design add to the experience of the surrounding occupants? Influenced the exploration and design strategies to alter, enhance and direct the visual focus based on the existing 'platforms'. Explored with the considerations of ways that the immediate building thresholds, between the selected site, and its internal can be experienced.

To conclude, the exploration of these timber-framed forms allows the achievement of many aspects of designing to the context, based on creating and adding experiences. Not only has this area of design exploration examined ways that an alternative architectural programme can be added into the existing city fabric while establishing its own purposed and function, but this strategy

of architectural treatment has also become part of the architectural assemblage that achieved the enhancement of both embodiment, experience and the sense of performance for both the users of the design as well as the surrounding community.

Figure 105 conceptualise sketch for neighbouring building interaction

Figure 106 Identification of immediate building surfaces to treat

Figure 107 Immediate building treatment explorations

Surface treatment strategy explorations

louver

green wall.

⊕ Dimensional forms.
timber
structures

full coverage

combine finishing
treatment.

combine surface finishes.

material
surfaces
- slats of timber
- smooth timber surface
- natural material.

Figure 108 Immediate building treatment strategies

Figure 109 Immediate building treatment application

Figure 110 *Immediate building treatment application, with material application*

The experience added to the features of the existing context allowing the surrounding community to experience the essences of learnign througuh observation and reflection.

As exploration takes place within the design, unconscious observations allows the space users of the existing context to become a part of the learning assemblage.

Observation from existing neighbouring building

Figure 111 *Observation experience from neighbouring building*

7.2 Building Footprint

The design influences of the site surrounding concerning the achievement of the performance criteria, specifically observations and responding to usage, can become strategies to break down the development of the building envelope. Through taking the existing site components that provides a platform for observations and reflections as well as mapping possible intended journeys throughout the site potential allocations for the building footprints can be explored. Along with this broken-down design envelope, these site influential guidelines can provide indications for programme allocations, what types of programmes are allocated into these spaces will, vice versa, also influence the impression of its occupants on how the design is used.

As analysed previously within the reflection and refinement of the preliminary design, the overall form of the architecture itself can become the component that influences or expresses to the users what the design is intended for.

Figure 112 Conceptual sketch for building footprint

Figure 113 Conceptualisation of influence of building footprint on performance of curiosity

The sense of curiosity is provoked through the complexity layered within the visual language on the site provided by the composition of the building footprint.

Figure 114 Exploration of footprint on design purpose

Figure 115 Conceptual sketch for building footprint

1. Smaller footprint developed
2. Complexity in form from layering and indentation
3. Cut through building form based on intended minor circulations

Figure 116 *Iteration of footprint and building envelope*

7.3 Circulation

The development of the circulation throughout the site is with the intention for the architecture to become the tool that heightens the essences of learning through a journey. The two areas of considerations (broken into stages of development), which has influenced the design of the circulations throughout the design are; 1. Providing different pedestrian paths throughout the site and 2. the journey taken through the site that journeys through the allocated programmes. Both are explored to allow the journey to be taken with layers of heightened experiences composed by the integration of the paths themselves and the experiences through and around the spaces with differing programmes.

Figure 117 Conceptualisation of building footprint influence on circulation and movement

throughout the site → develop a journey through the 'park' to create an encounter's experience.

Encountered during a stroll through the woods
— Responding to learning as a livelihood.

Figure 118 Influence of circulation movement on observations

Figure 119 Concept theory of programme allocation and circulation

Figure 120 Render spatial experience based on layer on spatial complexity

Figure 121 *Internal experience, moment sketch for nature integration*

vertically

structural paths: integrated with site.

Figure 122 Concept theory of programme allocation and circulation

1. Removal of 'solid' forms to create open circulation and informal programme
2. Creating accessible circulation through existing 'solids'
3. begin to influence the circulation based on form

Figure 123 Circulation development

.....➤ Internal Layout

Gallery and Amphitheater

7.4 Ground Plane

Further developing the complexity of the journey experienced on these paths, the ground plane became the architectural component that was recognized to be most influential to the experience of the journey.

Allowing to achieve the sense of embodiment and enhance the experience through the achievement of the performance criteria. The development of the ground plane is to be explored in relation to how they influence the movement of its users as the journey is taken. Key stages of the exploration in this area were the compositions vertically and horizontally. This was then challenged by the development between the internal and external spaces.

Vertically the ground planes were explored through design strategies such as elevating pathways, creating ramps and bridges, integrating steps, platforms, pits and step seating. These strategies are some of the architectural design strategies that not only influences the fluid journey through the programmes but can allow the paths to becoming the programmes themselves.

These paths are also further developed to integrate moments for static or slowed down movements, through exploring the viewing platforms and architectural elements that can accommodate the ‘pause’.

The development of the pathways can be expressed by three levels of movement

1 Movement	2 Slowed down flow	3 Static
The main path is taken by the most activated pedestrian.	The threshold between the distinct paths and the spaces where activities happen.	The spaces added along the edges of the paths to accommodate the pause, allow the stimulation of observation, reflection and moments of interaction to surrounding assemblage.
These different levels of movements can be achieved through the following architectural design strategies.		
Creating clear visible paths that guide the flow by physically elevating or lowering the ground plane.	Integrate a higher level of complexity within the ground surfaces by creating steps, more textured surface, or providing programmes to attract attention and curiosity.	Providing viewing platforms, semi-open platforms to allow for informal interactive spaces.

Figure 124 Development of ground plane components table

Figure 125 Ground plane effects on circulation flow

Private Exploration, Formal Gathering and Amphitheater

Movement Pavilion and Adaptable Exploration Space

Gallery and Amphitheater

Figure 126 *Ground treatment and circulation element concepts*

Figure 127 Ground plane treatment strategies ideas

Ground plane development

Throughout the exterior of the site, the pathways have been crafted in response to the development of the building footprint. These generated differences between the positive space (buildings) and the negative space (paths) are often hierarchised. This is where the positive spaces usually give more emphasis within the design process as they are seen as the 'legitimate' spaces. To achieve the essences of learning through a journey, however, this research aims to shift its focus of design to allow the process to equalise the hierarchy. As stated, learning has shifted from the typical act that involves a listener and a preacher, it is the act of engaging, emerging, experiencing and embodying.

The interior ground planes have also been explored with respect to their influence on the users through the potential for movement through and within the spaces.

1. Elevate ground plane based on established footprint, envelope, and intended circulations
2. Lower certain areas based on intended programmatic use

Figure 128 *Ground plane development*

ASSEMBLING DESIGN

1. Development of roof form
2. Influences of roof form on the building envelope
3. Development of structural elements
4. Facade treatment
5. Treatment of internal ceiling plane

Develop the purpose of the roof to create different programmatic experiences

- A. Formal internal space
- B. archway, circulation cover
- C. Pavilion external experience (extract the 'roof' but keeping its form)

Figure 129 *On site experience of ground plane*

Figure 130 *On site experience of ground plane*

7.5 Visual Language

Allowing the design to connect back to the local context, the visual language of the design is developed and communicated through the design of the roof forms and façade treatments. The impression of the architectural purpose can be expressed through the visual language created by the combination of the roof and façade as these are the elements first visually experienced. Due to the experimental programme proposed by this research, it can be assumed that the proposed design may be misinterpreted concerning its purpose. The development of visual language to reflect and connect to its local context and demographics can allow the purpose to be somewhat expressed.

The visual language of the design is to communicate a sense of place and meaning regarding its context as well as the programme. More specific to the proposed design, the programme has a purpose to serve the community as a public 'facility': The Exploration Park, thus the visual language of the overall design must symbolise and reflect its demographics and their purpose.

Figure 131 Sketch conceptualisation of visual language

New Zealand architectural visual language

Figure 132 *Sketch exploration New Zealand visual language*

Figure 133 Sketch exploration He Tohu Exhibition by Studio Pacific

7.5.1 Roof Forms

The composition of the roof form has a huge effect on the overall impression of the architectural design as these 'capping' elements, though not always fully experienced on a personal level, dictate and influence other architectural elements that have the potential to stimulate the experience and embodiment of learning. The roof form has the ability to influence the walls and internal experiences such as, the shapes and visual movements, which then ripples to influence the experience on a personal level.

Note: with altering roof formation concerning its scale and proportion to the rest of the design composition, the visual language of the complex or facility can communicate and/or offer different levels of association and relationship to alternative local contexts.

Visual language.
- Sense of warmth
grass - looking up.

visual language
to make people feel that they are free that they belong.

each level becomes
a platform
- leveling provides
broken up 'moments'

Figure 134 Conceptual roof form exploration

7.5.2 Structures

Figure 135 Conceptual structure exploration

Roof forms exploration

Figure 136 Roof form iteration

Figure 137 Visual language exploration

Figure 138 *Structural iterations*

Figure 139 *Integration of all components of visual language conceptual sketch*

Figure 140 Roof detail development

Façade treatment exploration

Crafted by the influence of the roof forms and horizontal programme compositions, the shape of the building façade or exterior walls have been developed to further create visual complexity and connection to its local context, thus allowing it to become more welcoming and relatable to the community. This has been achieved through two architectural strategies 1. addition of architectural façade elements 2. Composition and/or choices of materiality.

1. Architectural façade elements such as louvres, different types of perforated panels, and structural elements can be added to provide further relation of the design to its local context.

2. Materiality choices and/or composition can suggest an alternating impression of the design concerning its local context.

Façade treatment

1. Materiality
2. Structural Integration
3. Design based elements

Figure 141 Façade treatment development

Figure 142 *Internal structural development for experience*

Frame top junction

top timber
junction
for horizontal
frames.

Frame bottom junction

Figure 143 Structural details for proposed adaptable frames

Figure 144 Composition of adaptable frames

Civic Plaza and Adaptable Exhibition

Civic Plaza and Adaptable Exhibition

Figure 145 *Ceiling plane treatment for experience*

1. Development of roof form
2. Influences of roof form on the building envelope
3. Development of structural elements
4. Facade treatment
5. Treatment of internal ceiling plane

develop the purpose of the roof to create
different programmatic experiences

- a. formal internal space
- b. archway, circulation cover
- c. pavilion external experience (extract the 'roof'
but keeping its form)

Figure 146 *Integrate visual language components diagram*

7.6 Reflection and Discussion

The current design has established and accomplished the aim to explore ways that the architectural assemblage can accommodate for the essences of learning as summarised within the established performance criteria. These has allowed better understanding of architectural strategies to be considered and implemented thus establishing the framework.

It must be noted that the proposed framework is the beginning of a larger conversation of how architecture can become accommodate more experience, embodiment and expression of individuality.

Moving forward, the framework can begin to explore in more details, how more specific programmes can be designed to further heighten and achieve the established criteria.

FRAMEWORK PROPOSITION

8.1 Proposed Framework

Introduction of frame work for an architectural assemblage that provokes engagement, which can be adapted within an educational context

Framework		Establish Big Moves	Existing immediate Context	Establish Building Footprint (positive spaces)		Circulation (Negative spaces)
Things to consider	Macro Scale	<p>Consider the different types of 'thresholds' and the types of 'gaze' that they influence.</p> <p>Site-specific edges or boundaries are components that do not only influence the design's physicality but its expressions and impression on the surrounding community</p> <p>The treatment of these edges and decisions of the 'big moves' influences the purpose of the overall 'facility' in terms of its function and meaning to the wider community.</p>	<p>Consider the scales of the site that is relevant to the activity</p> <p>Consider the 'message' of the programme</p> <p>Allow the response of the design to not only achieve its functionality but also add to the existing function of its surrounding context.</p>	<p>Consider the overall limitations of the building allowed envelope can be challenged. Rather than taking the boundary guidelines and surrounding context as the final protocol for design, use it to question alternative strategies for the design to 'fill in' the missing gap.</p> <p>Once established, consider how the broken-down footprints influence the circulations throughout and around the site as well as how they are experienced by one another.</p> <p>Consider the forms of these segments and how their shapes influence the level of attention or focus to different allocated programmes</p>	Composition of Embodiment and experience	<p>Consider how the design further the composition of embodiment regarding the understanding to establish the essences that learning is a journey rather than destination.</p> <p>Develop and configure through establishment the building footprint how the 'negative' spaces could become the 'spaces' themselves</p>
Performance criteria to generally achieve		<ul style="list-style-type: none"> ● Curiosity ○ Sensory ● Expression ● Observation & Reflection ● Kinetic ● Responds to usage 	<ul style="list-style-type: none"> ● Curiosity ● Sensory ● Expression ● Observation & Reflection ○ Kinetic ● Responds to usage 	<ul style="list-style-type: none"> ● Curiosity ● Sensory ○ Expression ● Observation & Reflection ○ Kinetic ● Responds to usage 		<ul style="list-style-type: none"> ● Curiosity ● Sensory ● Expression ● Observation & Reflection ● Kinetic ● Responds to usage

	Ground Plane	Visual language	
es)			
rs t	Challenge, horizontally how the movement through negative and positive space can be 'elevated' by establishing different levels of informality.	Establish the visual language with consideration to the context it is sitting in.	<p>The design process during this stage if the scheme are to be considered specific to the programme it is to be adapted to. With specific references to the activities that will take place, the design must accommodate for it through the considerations of other technical and organisational performance criteria. These are such as, occupancy level, activities, comfort with the built environment, conditions for maintenance, and its flexibility for growth and development.</p> <p>Noting this design research has not explored these components in details. As reflected the process of exploration were required to refine its focus to specifically explore the area of performance in relation to the achievement of architectural assemblage to provoke the essences of learning through heightening the experience of embodiment.</p> <p>Other criterias to consider within the design of this sale are the influences of the specific functions of the programme to the material choices and surface treatments of the architectural elements.</p> <p>The design process of this scale must also consider its influences on all the established performance criteria.</p> <hr/> <p><i>Aim to achieve all components of the performance criteria</i></p> <div> <div>● Curiosity</div> <div>● Observation & Reflection</div> </div> <div> <div>○ Sensory</div> <div>● Kinetic</div> </div> <div> <div>● Expression</div> <div>● Responds to usage</div> </div>
n a	Consider how the development of the ground planes may influence the traffic flow within and throughout the site.	Consider the message of the design – establish the meaning of the programme and allow it to guide the development of the visual language.	
the prints, d es	<ul style="list-style-type: none"> o Flow: the moving current along the path of the established circulation o Slowed: the 'buffer' zone that allows the circulation to be slowed. It is the establishment of space for unconscious and informal interactions o Static: To accommodate the pause. Allow this space to allocate programmes 	<ul style="list-style-type: none"> o Roof forms o Structures o Façade treatment <p>consider how they are composed and integrated</p>	
	<div>● Curiosity</div> <div>○ Sensory</div> <div>● Expression</div> <div>● Observation & Reflection</div> <div>● Kinetic</div> <div>● Responds to usage</div>	<div>● Curiosity</div> <div>○ Sensory</div> <div>● Expression</div> <div>● Observation & Reflection</div> <div>○ Kinetic</div> <div>● Responds to usage</div>	

Figure 147 Proposed Framework

9

CONCLUSION

9.1 Conclusion

Discussion and Summary

Architecture as a discipline has the power to influence its surrounding contexts in more ways than within the realm of the built environment. While form and function are the two major components typically considered within the process of architectural design, it must be recognised that the architectural spaces are to be experienced by occupants capable to establish intellectual understanding. It is important to recognise the extent of all the different aspects of life that architecture plays a role in and influences other than the physical spaces.

Learning is an ongoing process crafted by the journey we take through our daily lives as we engage, experience and embody the physical surrounding, we can establish our understanding of the world, how they relate and intertwine, as well as establish a sense of self as we discover

where we belong within it. The educational discipline in recent years has acknowledged that a sense of displacement occurs for learners as globalization calls for diversity and customisation, but the educational system remains rigid and generalised.

Many researchers have established that the educational systems, as well as the approach to deliver knowledge, has been limited to theory-based style learning where the bottom line limits personal expression and exploration. Shifting the educational context has the ambition to accommodate for this sense of individuality, the educational context has begun to develop new and more informal educational systems to allow for the adaptability of individualized exploration as a learning method. This has been reflected within the development of new educational schemes as

theories such as experiential learning and sensory learning. While this is a newer version of understanding the essences of learning within the western context, it has not been an unfamiliar approach within many Indigenous cultures such as Māori. Embedded into Kaupapa Māori, the understanding of learning through experience and embodiment is common sense. Learning through engaging with one's surrounding is a key aspect of the development of knowledge as well as understanding one's place within the community.

Architecture as a discipline with the potential to influence the built environment is obligated to not only accommodate its shifting educational context but also expand its purpose to enhance the experiences of its users and provoke the sense of embodiment. As such it raises the question of How can the

assemblage of architecture be designed to provoke the essences of learning?

From the process of exploration through to crafting this thesis proposes an architectural design framework that aims to integrate the sense of experience and embodiment into the occupancy of space. The research establishes performance criteria specific to achieving the essences of learning, namely, curiosity, sensory, expression, observation and reflection, kinetic and responding to us. These were established as guidelines to architecturally capture the essences of learning. Through the establishment of these performance criteria, a realisation was established in relation to understanding many aspects of the characteristics of learning. Learning is an ongoing process, that is experiential and individualised. It is not a finite

procedure that can be standardised to suit every individual. In relation to the architectural discipline, learning is not a programme that can be effectively carried out within four walls of a classroom. The performance criteria established for the framework thus focuses not on how architecture can achieve specific learning materials, but how architecture can become the tool that enhances and further stimulate it.

To integrate the architectural theory of assemblage, while designing to achieve the performance criteria, it must be noted that each of the criteria must be designed with considerations to one another. For example, while observation and reflection are to be achieved, its design composition may be compromised by other criteria such as the requirement for

curiosity. As explored, the achievement of curiosity within the architectural design is to accomplish control over the level of exposure allowed to a 'space'. A higher level of precision is required to achieve privacy or publicity.

Through the process of composing the design criteria for the proposed framework, it can be concluded that within the process of architectural design, it is important that the influences of all design decisions are relevant to not only the form and functions of the architecture but also how it is to be experienced and embodied. Other than accommodating for the programmes, design decisions must also consider the users as concerning the body, movement, and interactions. The design process must also consider the effects that it will have not only on the intended programme but

also the existing context and how it will be contributed to.

This exploratory research has discovered and realised the stance of the architectural discipline within the wider context of society. The understanding of the term 'surrounding' within this thesis is not only referring to the aspects of the physical world or the built environment. It encompasses all the components that construct the experience within the assemblage. Including the people and how they interact and behave. Architectural assemblage is a theory that allows the essences of learning to be explored and understood metaphysically. Assembling architecture for learning and intellectual development is not only a process multidisciplinary within the design regime but integrates knowledge of cultural, societal and many other

components that construct the context of its allocation. Similarly, the composition is not only to craft the experience within but will become a part of the fabric that is its location.

The established framework is a prototype that aims to be adaptable to multiple contexts of architectural facilities that accommodate learning, such as schools, museums, libraries, as well as provoking a suggestion for a new scheme of cultural facility that will allow the community to freely express and more commonly be open and opportune to the sense of discovery through physical exploration. This framework may also be adapted generally for public spaces that aim to accommodate the sense of experience and embodiment into the design. Moving forward, the architectural design once integrated with the establishes

framework, can begin to introduce more specific programmes that can follow the framework and its aim to achieve experience and embodiment through the performance and design criteria. The more specific programmes can begin to allow refinements through materiality, services and other aspects of architectural details. This layer of further development is the more microscale development that would be specifically particular to the programmes it is aimed to accommodate.

Noting that this thesis is a process of theoretical investigation and design examination to compose the framework that allows an architectural assemblage that provokes the sense of experience and embodiment, particularly within an educational context. This architectural design research paper is an introduction to how the

architectural discipline can begin to challenge design processes and strategies to alternatively better accommodate the needs of its occupants beyond 'form and function'. Particularly within the context where the embodiment and experience are as important or is part of the function of its programme. It is the beginning of the process to introduce experience and embodiment as verbs, back into the intertwine discipline of learning and architecture.

SITE PLAN

LOCATION PLAN

Designed Programme

1. Civic Plaza & Adaptable Multipurpose Exhibition
2. Creative Spaces
3. Adaptable Workshops and Informal Meetings
4. Semi External Exhibition & Gallery
5. Movement Pavilion & Adaptable Exploration Space
6. Gallery and Exhibition
7. Private Exploration, Formal Gathering & Amphitheater
8. Exploration and Workshop Spaces

Perspective Section A-A

1. Civic Plaza & Adaptable Frames
2. Amphitheater
3. Green Pit
4. Creative Space
5. Pool
6. Immediate Building Observation and Reflection Treatment

Perspective Section B-B

1. Civic Plaza & Adaptable Frames
2. Workshop Space Green Pit
3. Elevated Platform
4. Movement Pavilion and Adaptable Exploration
5. Connection to Wakefield St Front

Perspective Section C-C

1. Civic Plaza & Adaptable Frames
2. Workshop Space
3. Amphitheater, Private Exploration and Formal Meeting Space
4. Gallery and Exhibition
5. Connection to Wakefield St Front

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