Disruptive Evolution

A Case Study of how One School Develops its Innovative Learning Environment

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Abstract

Population growth and sector evolution in education globally and in New Zealand have meant a sustained period of rapid change and development has been underway for quite some time. New schools in New Zealand are currently being constructed at a rapid rate, and existing schools are spending a lot of time and energy on re-thinking educational practices and approaches to learning. Many of the structural and pedagogical changes that the country has seen recently have arguably been mandated particularly to meet the principles of Innovative Learning Environments (ILEs) in the organisational, learning, and relational elements of school planning. These developments afford those involved at each school the opportunity to implement new research and education initiatives in their local communities. However, the ways each school and community go about these processes seem to vary greatly and research on the processes new schools and their stakeholders undertake in order to make the school operational is limited. This study addresses this gap by offering a case study of the implementation planning processes of one school. This research focuses on describing the drivers and processes involved in creating the implementation plan for one school. The thesis offers recommendations for other practitioners undertaking similar work in school development, a theoretical argument for approaching ILE organisational practices from an ecological systems thinking perspective, and implications for further case study research by both new schools and schools transitioning to ILE-aligned pedagogies and systems along with their stakeholders and communities. Finally, the research will highlight opportunities for further investigations into the operationalisation of ILEs in New Zealand.
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Chapter 1: Situating the Research Project
This chapter provides an overview of the research project, the structure of the thesis and the methodologies utilised. It begins by explaining the rationale for undertaking the research and the concerns that led to the study. The next section sets out the research objectives, methodology and research question. The chapter concludes with an outline of the thesis structure, the chapters that follow and the focus of each chapter.

Chapter 1: Situating the Research Project

Rationale

With the growing New Zealand population and other drivers to changing school structures and new builds, the last ten years have seen a variety of Modern Learning Environments (MLE’s), Flexible Learning Spaces (FLSs), Open Plan Learning Spaces (OPLS), Innovative Learning Environments (ILEs), and other school innovations become more and more common in the educational ecosystem. Over this same period of time, research on a range of perspectives on these new approaches has grown. In particular, areas of interest and study have focused on the impact on learners, teacher collaboration, leadership of ILEs learning space design, and, more recently, the interplay between the physical environment and the pedagogies and practices used in these models. As well, embedded within the New Zealand school organisational context is support for localising is a school’s approach in order to best cater to the idiosyncrasies of the community it serves. In New Zealand, it is expected that state schools reflect not only their legal obligations as set out by the Ministry of Education (MOE), but that they also deliver the New Zealand Curriculum (NZC) in a way that is responsive to the local community and resources of which they are a part.
This means that most of the evaluative and outcomes-focused research on ILEs has been carried out so far, both internationally and locally, is potentially not useful or helpful for other schools beginning their work in localising the approach to their ILE.

Another challenge in education is an identifiable pattern of “magpieing” - or borrowing resources and using them in new contexts - without considering whether the resource or concept is a best fit for the new context. This is also the case when using existing research to support the development of implementation plans for new schools or for schools undergoing change, including those that are working on developing an approach to ILE implementation. The scarcity of research on how schools and communities might go about localising the dynamic ecology that every school inevitably embodies is one of the areas this study will begin to address. Specifically, this research will unpack the drivers and processes that were used by one school community to create their ILE implementation plan. This will be illustrated in the case study format. The research focus on processes and driver identification is intended to support other schools in similar positions to identify and localise their own learning community ecosystems, and use processes that can help them innovate and customise their ILE to meet the needs of their community. A practitioner researcher perspective on the success of the case’s approach and lessons learned will also be offered.

The research was driven by themes arising from the literature which include the experiences of the New Zealand and global education community of practice in ILE development, current New Zealand government initiatives and mandates for the education sector, and, to a lesser extent, media and public commentary on the implementation of ILE spaces and pedagogies in New Zealand communities. Also relevant to this study are other innovation perspectives.
Multidisciplinary perspectives which highlight how the identification of drivers for innovation and how processes are used to innovate in both the education community of practice as well as in other fields will be introduced as increasingly relevant to the education sector. Through the review of literature it also became apparent that ILE case studies in New Zealand, in particular relating to their development of new schools, as well as the processes used to develop implementation plans, were lacking and that therefore, this research would contribute to filling a significant gap.

The Research Project: Aim, Objectives and Research Question

Aim

To describe the key drivers and processes used in the development of the Ormiston Junior College (OJC) innovative learning environment implementation plan and how they supported the localisation of the school’s educational ecological system.

Objectives

6 objectives were met in order to answer to the research question comprehensively.

- Describe the drivers for the development of plan.
- Describe the development of principles for working together to create the plan.
- Describe the processes used to develop the plan.
- Comprehensively chronicle the process by which the plan was created.
- Identify and describe how the defined innovative learning environment elements are
addressed in the plan, the process for arriving at them, process for their inclusion, as well as their intended outcomes.

- Analyse and interpret these processes to identify common themes which have implications for the OJC community of practice as well as the extended community of practice in education.

**Research Question**

The following questions guided this research:

**Main Question**

- How did Ormiston Junior College develop an implementation plan for its innovative learning environment?

**Supplementary Questions**

- What were the main drivers that influenced the Ormiston Junior College innovative learning environment implementation plan?
- What were the main processes used to develop the plan?
- How did the drivers and processes interact to inform the outcomes of the plan?
- How did the drivers and processes help to localise and articulate the complex educational ecosystem in its plan?

**Benefits of the Study to Stakeholders and Communities of Practice**
My community of practice includes two main categories of stakeholders. The first is my immediate community of practice within the OJC context. The core purpose of the study is to directly support the community of practice within the OJC learning community. This includes OJC staff, leadership, governance, the school’s future learners and their families, and the Ormiston Community.

The second is the extended New Zealand education community of practice, including:

1) Other planned new schools, their communities and stakeholders who wish to employ ILE or similar elements in their planned practices including, but not limited to, their board of trustees, staff, learners, whanau, and wider community;

2) the four other Junior Colleges currently operating in New Zealand, and those expected to be operating, and their stakeholders;

3) other schools and institutions interested in further investigation of ILE school design constructs and their stakeholders (Boards of Trustees, staff, learners, Whanau, and wider community);

4) policies and commentary in the education media and political education communities to help inform their approach to and knowledge of ILE elements in a New Zealand schools and

5) international schools and their communities and stakeholders who are looking for models and case studies on ILE design.

Outcomes and Outputs

Key benefits and outcomes of this research include:

- Identifying the key drivers that were significant to developing the OJC implementation
plan;

- identifying key processes and their characteristics and use in developing the plan;
- describing aspects of localisation in OJC school design and their rationale;
- describing aspects of educational ecology systems thinking and its impact on the plan;
- developing a narrative of processes other communities of practice could adapt for their own professional development and school implementation plan development processes.

The overall aim of the study is to create a case study of a New Zealand ILE and how the school’s implementation plan came into being.

My personal practice has changed and developed through this research as well. By looking at the school’s implementation planning processes in depth, I have gained valuable insights into how decision-making happened as it occurred, and the overall trends in the processes we chose to use and not to use in a variety of situations. Similarly, my colleagues who have been part of this planning from the start, those that have come on board part-way through, and those to come in the future, will potentially benefit from understanding how the thinking behind the initial implementation decisions emerged.

By association, the community of Ormiston may also find this document useful in understanding why the school functions as it does, and in turn, other education professionals interested in this journey will also now have access to the inner-workings of how the implementation plan was developed. Finally, one of the key outcomes and benefits for us as a community of practice is likely to be the set of implications for further research. As the implementation plan becomes operational, we will have an in-depth analysis of the decision-making process that has led us to this point. We are now able to better understand both the positive, negative, and intended and unintended ramifications of those processes to be better able...
to apply our existing processes and others to future planning and ongoing improvement for the school.

**Thesis Structure**

**Chapter 1: Introduction to the Inquiry**

This chapter gives an overview of the research project and positions the inquiry.

**Chapter 2: Educational Situation and Setting**

This chapter will give a detailed description of the local context of the case in relation to the wider community of practice.

**Chapter 3: Literature Review**

This chapter investigates what exactly is an ILE in both global research as well as New Zealand research perspectives. It will define the term ILE, and what it might mean in the New Zealand context. The next section will look at how the concept of localisation, and drivers and processes associated with localisation, might impact a school’s approach to developing implementation plans. This will be followed by an overview of the emerging ecology systems thinking and how it applies to education and schools’ planning processes. Specifically, this section will outline the nature of complex systems which function as ecologies, and examine how studying the drivers and processes involved in a complex organisation, such as the development of an ILE,
can be framed as an ecology in order to best describe the nature of the dynamic interactions between all its components.

Chapter 4: Research Approach & Methodology

This chapter explores the rationale for undertaking the research as a case study with a participant researcher. It will link methodological literature to those used in the study as well as the document analysis and questionnaire methods employed. It will include a description of the research processes used to plan, carry out, and analyse the documents and questionnaires used to gather the data. Finally, the chapter will conclude with a discussion of the validity and ethical considerations that were involved in the project.

Chapter 5: Research Findings

The findings of the research will be presented using the following communication strategies in order to best reflect the complexity of their interrelated parts. These include:

- A table which links the key drivers and processes identified with their uses, justifications for use, and associated outcomes;
- a series of vignettes which serve to describe the narrative of how the implementation plan was developed, as well as to provide more detailed analysis of each part of the implementation plan’s ecology and localisation elements and practices, and
- an interactive digital diagram which illustrates the interactions between the principles, drivers, processes, and outcomes of each part of the plan.
This chapter will also focus on presenting the findings of the research. It will present the findings in three ways which are intended to illustrate the complexity and interconnected nature of the findings and also to provide a meaningful way for practitioner readers who are interested in specific parts of the findings to be able to access the parts they need easily. The three ways the findings will be presented are in figures, tables and narrative form.

Chapter 6: Conclusions, Discussion, Recommendations & Implications

This chapter will focus on discussing the findings in relation to the literature including ILE development, schools as ecological systems, and localisation considerations. It will also provide practitioner researcher perspectives on both the research experience itself and on how the processes and planning played out during the implementation. Finally, this chapter will provide recommendations for other practitioners and implications for further research.
Chapter 2: Chapter Summary

The prevalence of the development of ILEs in new and existing schools in New Zealand has been growing for the last decade. One of the most significant challenges in this part of the educational landscape is how do schools decide which drivers and processes they will identify and use to undertake the work of creating implementation plans for their local learning communities. Few case studies exist that describe this perspective on ILE implementation work in the New Zealand context. One case study will be analysed alongside the existing literature in order to better understand the drivers and processes schools might consider using to localise and conceptualise their ILEs educational ecology and implementation plans. The stakeholders involved in the case study, other teachers, leadership and communities will also benefit from an improved articulation of how a school might go about the process of understanding its own localised drivers and what processes they might consider applying to address each area of their own ILE planning.

The Context: Educational Setting and Situation

Ormiston Junior College (OJC) is a co-educational state school built to meet the needs of the newly developed Ormiston Town centre community in Flat Bush, Auckland, New Zealand. Ormiston is a new development within the eastern suburbs of Auckland that has been developed to support the booming Auckland population and includes the largest site for current housing development in the country. The community is populated predominantly by newcomers to New Zealand, including community members from Asia, Southeast Asia, India, as well as from Africa and the United Kingdom. Maori, Pasifika, and pakeha New Zealanders are also notable populations in the catchment area.
OJC has been built to meet the needs of this neighbourhood and the physical design is that of an innovative learning environment. New school builds, and how physical spaces are designed and used, are intimately connected to contemporary educational research on the organisational, relational, and learning considerations that are made in the school environment on a daily basis. The New Zealand Ministry of Education (MOE) has worked on defining and mandating the factors that make up its innovative learning environments (ILEs). The Centre for Educational Research and Innovation (CERI) alongside The Organisation for Economic Co-operation and Development (OECD) have also contributed to the body of research dealing with the elements that make up an ILE. Both discuss ILE elements which reach far beyond how the physical space is designed and used. New Zealand educational researchers have also begun to unpack the implications of this new approach to teaching and learning. Over the last fifteen years, much has been discovered about the many possible approaches and impact of these spaces, their uses and misuses, and impacts on teachers, learners, and communities within the New Zealand context.

Another educational focus to highlight in the context of this new school is the consideration of localisation. The concepts of localisation in education, and how the processes used by each community to create new school implementation plans in relation to the development of ILEs, has become an area of particular interest in New Zealand. This interest relates to the Ministry of Education directive for the implementation of ILE’s by 2020. ILE adoption and innovation are a part of the MOE’s vision for education. At first glance, this sits easily alongside the NZC mandate for school’s to ensure their curriculum delivery takes into account their local communities and environments. However, visionary statements about localisation and contextual learning do not provide a robust framework of tools and strategies
that are needed in order to bring the vision to life. Similarly, schools that have been successful in locating their curriculum and networking their learning in context are often held up as exemplars of best practice. Their outcomes are shared, and their successes are celebrated. However, how they went about achieving this is not often unpacked for others in the sector to learn from. The strategies and processes they used in order to achieve terrific localised outcomes may in fact, be the most useful support and professional sharing for other schools since their local settings are vastly different. This lack of understanding about the ways in which schools can undertake this type of work, is one of the areas this research will address. Rather than providing an outcomes based case study or exemplar, this research intends to shed light on ways that schools might go about working towards localisation and understanding their own complex educational ecologies.

CORE education, one of New Zealand’s most prominent professional learning and development organisations, also highlights ‘processes’ in their approach to articulating notable trends in education since 2007. CORE offer the following perspective on processes and why examining process trends are important to the education sector:

In business terms, process is a collection of related, structured activities or tasks that produce a specific outcome. Simply put, process may be understood as ‘the way we do things’.

Educational institutions are generally very process-driven, from enrolment, to curriculum, to the approaches to teaching, to assessment and graduation. Each of these is characterised by the process used to determine how things are done.

(CORE Education, 2017)
However, trend identification aside, it is precisely these processes that are often the part of the work done by schools that is not shared or uncovered.

**Experiences and Research from the Community of Practice**

National and international literature and implications for research suggest the need for further case studies which explore ILE development, how they are localised, and how the elements form an interwoven organisational structure. In 2010, the OECD commissioned the beginning of a massive body of research initially exploring the nature of global education reform (CERI, 2012). This research revealed exceptional Programme for International Student Achievement (PISA) achievement data out of Scandinavian countries, which are some of the first in the world to implement on a large scale what have now become known as ILEs. In addition, there have been a range of white papers following the PISA reports which also address aspects of the ILE elements, some of quality and some more focussed on product promotion. This body of work has led to both global and New Zealand discussions in education often centering around ILE and 21st century learning interpretations and just what these might mean in practice and in context (CERI, 2015; MOE, 2012). The CERI global case studies began to extrapolate commonalities and differences on a global scale (CERI, 2015). However, within New Zealand, there is still a lack of research about what implementing ILEs means in this context, and how the concept can be applied in localising schools and their curriculums within New Zealand. CERI and OECD research did not include a New Zealand case study or school, and within New Zealand, much of the literature on national examples has focused on professional development, community perspectives, position papers or white papers, and only examines a specific identified element of ILE design, rather than a holistic perspective. The New Zealand literature also does not address the processes involved in developing ILEs in New
Zealand. For example, the body of research unpacks ILE perspectives on curriculum design, physical space planning, leadership in ILEs, or other discrete focus areas within the wider concept. There is no literature focused on how the ILE elements function together as a whole, or what processes are involved in developing ILEs. This body of literature would therefore benefit from this case study.

**New Zealand Government Documentation, Initiatives and Mandates**

ILEs have also become the directive by the NZ government as the preferred model of practice in education and should be implemented by all schools by 2020 (MOE, 2012). Though this has been publically mandated and written into vision statements, building designs, funding and practice, there is no specific provision detailing what ILEs might look like in terms of school design within the context of the New Zealand Curriculum (NZC) or how communities should approach this work. The New Zealand MOE states that “The New Zealand Curriculum is a statement of official policy relating to teaching and learning in English-medium New Zealand schools. Its principle function is to set the direction for student learning and to provide guidance for schools as they design and review their curriculum” (MOE, 2007, p.4). The MOE also elaborates on this intent in the following statement:

Curriculum is designed and interpreted in a three-stage process: as the national curriculum, the school curriculum, and the classroom curriculum. The national curriculum provides the framework and common direction for schools, regardless of type, size, or location. It gives schools the scope, flexibility, and authority they need to design and shape their curriculum so that teaching and learning is meaningful and beneficial to their particular communities of students. In turn, the design of each school’s curriculum should allow teachers the scope
to make interpretations in response to the particular needs, interests, and talents of individuals and groups of students in their classes. (MOE, 2007, p.37)

These statements and the curriculum document itself are intended to be guidelines for schools to interpret and localise to their specific contexts within New Zealand. Therefore, while physical, economic, demographic, social, political and pedagogical contexts change and often shift towards adopting ILE principles and spaces, it is important to begin to explore exactly what is meant by an ILE in the New Zealand context and subsequently what learning is intended in the ILEs for their specific communities and learners (Bissett, 2014). Finally, what processes might be used to determine the ILE elements for each unique school community.

The OJC Context: Mess, Ecology Metaphors, Mini-Golf & Complexity

With this mix of influences and requirements in play, the OJC leadership team began the journey of creating a new innovative learning environment. The drivers or catalysts, processes or ways of working to a solution, and the underpinning principles or beliefs for this endeavour rose out of the shared leadership experiences, research and exploration.

The drivers and processes that influenced and helped to shape our implementation plan aligned surprisingly well with the proposed ILE elements model that was used to design and carry out the research. This natural alignment was deceptively simple when it came to writing up the thesis, as it certainly makes presenting the findings more straightforward than anticipated. However, if the findings were presented solely as linear or as an aligned matrix of drivers, processes, and outcomes, it would not be an accurate narrative of the complexity of
how these factors overlapped. Instead the drivers and processes were dynamic. They occasionally bumped into one another, crossed over, or worked together to create an unexpected synergy. In addition, the reality was that these elements were sometimes intentionally addressed, and sometimes not. It is from this interplay that the value in analysing schools from an ecological systems thinking perspective arises.

The concept of educational ecology, and all the complexities of an ecosystem or a dynamic organism are an accurate descriptive organisational framework to articulate this situation. A complex system or organic entity thrives, survives, develops, grows and changes because of the ways the macro and micro components constantly interact and respond. Many times, this interaction is unpredictable, or will later have unpredicted or unintentional outcomes, even when one part of the ecosystem is carrying out a very intentional process based on a very specific driver and desired outcome. In this sense, presenting the findings of the research as simply drivers and processes either chronologically, or as related to different components of the presented definition of an ILE, would be grossly oversimplifying the dynamic nature of these parts and their interconnected narrative. This interpretation of the findings as a dynamic system will also influence the ways in which the findings will be presented in chapter five.

Part of the dynamic nature of the experience is attributable to the human element. Teams of people working on the implementation plan did not necessarily engage in a tidy, linear or aligned way - for better and for worse. The nature of this human “messiness” is actually an important learning in and of itself.
This messiness also added another layer of complexity in the research collection and data analysis itself. Some valued and ongoing processes became drivers for change or were used in connection with other processes, or in fact, became so embedded in practices that they became principles. Or, particular drivers or processes were targeted both intentionally and unintentionally in multiple contexts and settings to meet a variety of purposes. The ongoing focus on whakawhanaungatanga will be shown to be just such an example.

Whakawhanaungatanga - or the process of developing and maintaining relationships - came up time and time again throughout the research. It was undeniably a process in and of itself - simple food sharing, celebrations, road trips and the occasional beverage - all supported parts of whakawhanaungatanga. It was also considered in depth and very intentionally in terms of ongoing community-relationship building, team-building, consultation, and co-design. However, this is not where this process and its value and importance ends. Whakawhanaungatanga was embedded in visioning processes, in Design Thinking, in how the time and space allocations were made in the school, how the teams were developed, and much much more. To make this even more complex, the principles of whakawhanaungatanga also became drivers of processes as well - and so separating out the role of whakawhanaungatanga in localising the OJC ILE becomes challenging to narrate or document concisely.

Whakawhanaungatanga as principle, process and driver appeared in the research connected to everything from a team-building mini-golf excursion, to putting other administration type planning on hold when it seemed that this needed more in depth work. It was reflected in documents and questionnaires woven through both formal and informal work done by all stakeholders. Whakawhanaungatanga as a principle, driver and process, became a key part of how OJC would work before it even opened - and would influence how we did and
still do things on a daily basis. This includes how we plan, how we deal with challenges, and how we manage day-to-day life in a complex organisation, and how we made an implementation plan operational. Most of the influential drivers and processes are equally complex. While each would dominate different parts of the narrative at different times, it is important that the reader understands this complexity at the outset before unpacking the findings rather than after. Narrating this case study in the reverse order would do the findings, the implications, and the community of practice a great disservice by allowing the presentation to create an illusion of a simple, neat and tidy, step by step process for creating OJC’s implementation plan - which would also be completely inaccurate.

This “messiness” illustrates the nature of ecological systems thinking in educational organisation contexts. It sets the scene in a way that reflects the nature of the ecological components colliding and influencing one another. Some of the key elements that make up this beautiful mess need to be presented first, before they are deconstructed into their simpler parts.

As a result of these elements intertwining and interacting as described, particular characteristics of this thesis need to be stated.

- The chosen methodology itself;
- the nature of the research methods that then allowed for both intentional and unintentional drivers and processes to be uncovered;
- the clear articulation that there is no evaluative element in this research - in other words - the effectiveness or outcomes of the OJC drivers and processes
are of course of interest; however, they are connected to the implications for future research and are not part of this study, and

- the decision to present the research in table, figure and narrative multimedia vignettes formats in order to reflect the unique characteristics and intricacies of the case and the nature of studying drivers and processes;
- and the implications of both the explicit, and unintended use of processes and their related outcomes to the team and to other practitioners investigating this research.

The Case Study Methodology and its Implications for the Research

Using the case study methodology was a crucial component in understanding the processes used. Because the case study method focuses on discovering the idiosyncrasies of the case at a particular junction in time and space, it is well suited to telling a story that acknowledges all the complex working parts. Just like a great story incorporates elements of setting, character development, and wider context, a school as a case study - particularly the study of processes used over time to reach a goal (our implementation plan) and as a localised ecological system - is a story that is worth telling. However, it is also important to note that it will not evaluate these or advocate for them. The story the research tells is also not intended as a map which explains what treasure or outcomes are to be found will come at the end that made up our implementation plan. Rather, it is intended to serve as a perspective for those in other similar situations to use to frame perspective, to acknowledge that components of the task at hand, and how those components are unique to their context and the ways they may interact with one another over time.
For many readers, this may have the potential to feel somewhat unsatisfying. There is a real tendency in the education sector to use ideas from one context, tweak them (or not), and implement them in an entirely different context, and assuming they will be effective. At worst, this practice is sometimes mistakenly celebrated as innovative. In fact, In contrast, completing this research as a case study was also designed to intentionally reflect how we created and localised our implementation plan, and the use that may be in our sector - rather than studying OJC’s ILE as an outcome. This means that in the findings there will not be some sort of ‘secret sauce’, or ‘blueprint’ provided for other schools to follow. There will only be an accurate account of the considerations that took us to the place where we were able to articulate our plans for the school.

The Discovery of Intentional & Unintentional Drivers and Processes at Play

The nature of dynamic organisations and their interactions must also be acknowledged before analysing the findings of the research. A document analysis on its own was not likely to accurately reflect the stakeholders’ experiences or all of the rich interactions involved or to acknowledge other drivers or processes that - consciously or unconsciously - influenced the team’s processes. Drivers, processes, and the people that undertakes them do not exist inside a bubble. There were many times when the lines between principles, drivers, and processes was blurred. Or, there were times when drivers overlapped across outcomes or entities working on different parts of the plan. There may also be an assumption made about the proficiency of the team in deliberately using processes that were new or emerging for them. As non-experts, this may have affected how well the strategies were used, or how informed the team was in their selection and application of processes in order to achieve specific outcomes for the plan.
Similarly, at times the team would default to known processes and drivers that they were familiar with without making conscious decisions to do so. These things happened and existed and are reflected in the data even though they were not articulated by the team at the time. All of these things are important to understand and now describe as a part of the case study.

As with most research, some things will be left out or were not uncovered. Some drivers weren’t as important, did not come up frequently or did not seem to remain a driver after consideration. Other sub-processes may have also happened in and around the major processes, but were not highlighted in the data and research methods. What this research does do is reveal the most significant ways that we worked as identified in the documents and stakeholder questionnaires, and the running themes and processes that were used often and in integral and measureable ways that linked to the development of the implementation plan.

**The Non-Evaluative or Outcomes Oriented Nature of the Research and Findings**

As previously mentioned, often there were processes within processes, or there were small iterations that this research may not have picked up or included in the report as their significance to the “way we worked” was minimal. Clearly defining how and when these complex interactions and influences took place was one of the trickiest parts of the research and analysis. All process and drivers included in the final paper were deemed to be present and significant. However, just because the team used processes and they are detailed, and artifacts and questionnaires support this, it does not mean we used them perfectly - or possibly - even well at times. For example, some processes such as Agile or Design Thinking are relatively new to education, and were certainly new to most of the team. This means that the way we used
them may have been flawed or lacking in mastery. However, the case study showed there was enough evidence to indicate that the processes used were relatively true to their intention and their use was responsible for important parts of the implementation plan. I am sure if the team had the job to do again, there would be further refinements, and newly gained understandings and expertise in using the processes to localise an ILE. This would be a significant benefit. This perspective will also be further unpacked in the implications for the researcher as practitioner and could be of value to the community of practice as well as our profession.

The Characteristics and Intentions of the Team

At the heart of most things we did, the planning team really tried to avoid bias and default thinking about schools, ILEs and teaching and learning as best we could. This is what led us to attempt new ways of thinking and processing. It also allowed us to be open to allowing drivers from more recent research and other sectors to influence the processes and outcomes despite the team being emerging practitioners of these ideas. One phrase likely sums up a key driver throughout every process in the following from one of papers that initiated both drivers and processes on many levels and will be referred to throughout this paper as the one of the most frequently reflected documents and process recommendations in all the data collected. Julia Atkin asserts the following in regards to the difficulty in developing a “way of being” approach to schools. She asserts that:

To live being be a ‘learning community’ is not an easy process. There are many forces working against such an approach. The forces I have found to work most strongly against the creation of learning communities result from tendencies to:
1. react to outside mandates or pressure for changed practice by accepting practices in an uncritical, unquestioning manner
2. adopt a mentality of ‘keeping up with the Joneses and, what Michael Fullan (Fullan, 1991) has termed ‘groupthink’.
3. act out of the patterns of the past rather than as deliberate and conscious designers
4. look for simple solutions to complex problems – to look for ‘black or white’, ‘either - or’ solutions.

To counteract these forces I believe we need to make an essential shift in mind set. We need to consciously adopt a different emphasis and approach to development. (Atkin, 1996, p.2)

The team’s study of Atkin’s entire paper drove us to question, reflect, consider and embrace complexity throughout our own learning during the implementation planning as well as within creating the plans themselves.

**Developing a Research Narrative Approach**

This paper is a story - a researched story - but a story nonetheless. The anecdotes used will be from the document analysis research or from the stakeholder questionnaires. They will give a narrative of how the implementation plan came into being, and by telling it this way, will help to also express the human elements - the flawed nature of how things intertwine and bump into each other in a large organisation or school - and why that is both awesome, and
challenging. It is also a story because even though it is unpacking “technical” things like drivers and processes, ultimately, the human element is what drives the narrative forward, the collaboration and friction between characters and entities is what helps the protagonists to innovate or adapt, and relationships and whakawhanaungatanga are arguably the most referenced and ongoing processes that create a consistent theme running throughout the story. It is both intentional and unintentional - but nevertheless, it is an acknowledged theme and process that repeats itself time and time again - from both a theoretical perspective, as well as a human perspective and this must be reflected in the telling as well as the data. The individuals, systems, and network and their unique perspectives interact with one another and one another’s ideas and experiences, and as a result, the outcomes are messy - not simple. It is critical to acknowledge however, that they are all still interconnected through their common work of developing the plan. In order to best support this aspect of the OJC narrative, diagrams and illustrations will also be provided to help visualise this.

Vignettes Overview

The research findings will be presented as a table, a series of figures and in narrative vignettes. These will not be chronological. Each element of a school or ILE does not exist in a neat and tidy vacuum that can be described independently of other elements and the order of decision making and iteration is often non-linear as each element influences the others. As noted earlier, the elements in the planning process collide, intersect, and impact one another as a part of its unique chronosystem. To better organise the findings into an order that best reflects the work, the narrative vignettes are divided up as follows:
1) The early days - the planning and principles for how the team would develop an implementation plan,
2) Relational Elements - how the team went about developing the relational elements in the plan,
3) Learning Elements - how the team went about developing the learning elements in the plan, and
4) Organisational elements how the team went about developing the organisational elements in the plan.

The early days set the stage for what was to come. They set the tone, and also prepared the groundwork for the significant major processes that link and weave through everything else that was done subsequently. The following three vignettes align to the MOE and OECD principles of ILE design. They are paraphrased and condensed overview headings for what the team considered to be the important elements of an ILE. How a school community addresses - or chooses not to address - these things is what makes the ILE unique and localised. It is important to note that the design of the building, sound considerations, the furniture involved and other physical characteristics of ILEs that media and the wider community like to discuss and debate are not headings. They are sub-layers that exist, and need to be dealt with, but for the purposes of this research, are only discussed in relation to three broader areas of organisation, learning, and relational elements. Again, this is in line with the MOE and OECD’s working principles of what, in fact, makes up an ILE.

Finally, once the story of OJC’s implementation plan has been told in context, a critical discussion of the following will be presented:
● Implications for practitioner research in similar cases,

● Implications for the researcher’s future practice,

● Stakeholder and organisational implications for proceeding and culture setting,

● Implications for understanding - gaps and new knowledges arising in the profession/school, and

● Implications for further research into ILE development from a process and organisational based perspective.
This review of the existing literature begins by examining the principles and definitions of Innovative Learning Environments in order to construct a robust working definition and identify elements that make up an ILE. The focus on localisation of ILEs and existing research on ILE case studies (and the lack thereof) is also considered in relation to the New Zealand context and the New Zealand Ministry of Education’s mandate for all schools to move towards designing learning around these principles and elements. Finally, a case is made for re-thinking the organisational structures of schools in order to better localise and leverage ILE principles by moving towards an Ecological Systems thinking modality in order to better recognise and articulate the interconnected elements in all schools.

Framing Questions:

1. Does a defensible working definition of what makes up an ILE exist in the literature?
2. What are the components of a defensible definition of an ILE?
3. How do schools go about developing implementation plans for ILEs?
4. What does localisation mean in relation to school development?
5. How can the complexity involved in localising a school’s ecology - particularly the development and planning for ILEs - be interpreted in order to accurately describe this complexity?

Key Principles of Innovative Learning Environments: Towards a Shared Definition

The definition of what makes up an ILE and what its purpose might be is a hotly contested topic. In New Zealand this debate plays out publicly in both formal and social media. Educators and researchers, both with and without experience and a working knowledge of ILEs, contribute to the discussion, and members of the public, families and learners, and wider community members all form opinions about and add to the script. Both critique and celebration rage on across milieus and sectors. However, through all the
cacophony, there seems to be missing a shared definition of just what makes up an ILE and how this may support more meaningful and productive conversations about their impact and influence in New Zealand education. All of these influences create one of the key issues leading to a variety of critiques of this innovation (Simons & Masschelein, 2008; Nair & Fielding, 2005; Pearlman, 2010). Therefore, the intent of this literature review and investigation will be the following:

- To explore the key trends in the evolution of school design in terms of ILEs in particular;
- To present an overview of the considerations of what exactly makes up and ILE and their potential impacts on learning and schooling;
- To provide a comprehensive synthesis of the current thinking and research surrounding ILEs to potentially highlight key implications for developing schools in this way,
- and finally, to highlight areas for future consideration in terms of researching the evolution of ILE design in order to inform best practice and further innovation with learner outcomes at the heart of the intent.

There are some key ideas that help to form a loose definition of what an ILE is and is not. First and foremost, it is critical to acknowledge that ILE design is not a simple set of physical elements that make up a learning space (OECD/CERI, 2013; Kock, Sleegers & Voeten, 2004; Nair & Fielding, 2005). Nor is it just the components that make up the physical space in which learning happens (OECD/CERI, 2013; Armstrong, 2014; Arslan & Arslan, 2014). Whether in favour of ILEs as a legitimate educational innovation or not, the following elements are nearly universally acknowledged as being at the centre of what makes up the ILE:
ILE Learning Elements: The principles and pedagogies that inform the way in which the environment is designed. These include placing the learner at the centre of the learning experience; recognising that each learner makes meaning through their unique perspectives, prior knowledge and idiosyncrasies; that there is clarity of purpose and expectations around formative development of learning and optimum levels of challenge for each learner;

ILE Organisational Elements: The physical and material structures and elements should be considered in school design, and that these include, but are not limited to, technology, space, time, organisational structures, community & context or situation;

ILE Relational Elements: The relationships, connectivism, and the social nature of learning. These are key considerations and should be promoted and supported by the environmental design.

(OECD/CERI 2013; Nair & Fielding, 2005; Kools, 2013)

For the purposes of this research, these three elements will inform the definition that the data collection and analysis, and will also help to define the organisation of the findings.

CERI’s work for the OECD report on Innovative Learning Environments in 2013 also asserts that these elements do not exist in isolation from one another, but instead that:

The force and relevance of these transversal conclusions or "principles" do not reside in each one taken in isolation from the others. Instead, they provide a demanding framework in which all should be present in some way for a learning environment to be judged truly effective. (OECD, 2013 p.16)
These elements, when combined, make up the learning environment, particularly in relation to an evolved sense of what the term encompasses. One can describe the ILE as an environment in which the physical, technological and digital, as well as the socio-cultural elements come together in order to best facilitate the desired innovative learning outcomes and practices as previously discussed (OECD, 2013). These definitions place the focus of learning environment design, on how the physical factors can influence and support the learning and the pedagogical considerations in the innovative learning centre. They also acknowledge the pivotal role of ICT resources and digital programming in ILEs, but always in the role of the facilitation, artefact creation and supporting background for the learning that is taking place (Khine, 2003). However, another argument holds that the ILE’s role in the learning landscape takes on a broader scope. The history of this analysis goes back to early learning environments theories pre-dating the roles of digital technology and ICT, and develops the idea of the learning environment as a key partner in the learning experience, or indeed, as the Reggio Emelia educational philosophy describes, as the third teacher. This idea has been explored further more recently by DeCorte (2010), Engeström (2009), and Akkerman (2011) who all assert that the learning environment does not exist as an entity which only facilitates the learning, but is, in fact, a designed component which allows for the interplay between all elements and contexts. This in turn promotes a mixture of approaches to teaching and learning as being the norm (as cited in CERI, 2013). It is with all these factors in mind, that the OECD definition of a learning environment is "a holistic ecosystem that functions over time and in context and includes the activity and customs of learning" (OECD, 2013, p.11). Furthermore, the OECD report focuses on the recommendation of an ILE framework which advises that the pedagogical core, formative cycle, partnerships and learning principles (2013)
all drive the innovation process regarding ILE development and are applied appropriately to each respective context.

Nair and Fielding's work corroborates this idea. Their specialist architecture for educational design approach digs deeply into the educational pedagogy, theory, and research in order to inform their design process. The two critically renowned educational architects have developed a model based on these considerations, which identifies 25 design patterns (2005) and 18 modalities (2007) as well as a language pattern that can be used in order to describe the physicality of the material design process involved in the ILE creation and, which they argue, should not be overlooked. They are in fact undeniably key contributors in terms of furthering to define what elements must be considered in the design process. Their work is soundly based in theory and echoes the ILE priorities as outlined in all the aforementioned reports. It is with this in mind, that, for the purposes of the review of literature and the study itself, the term ILE will encompass the holistically designed environment. This learning environment will include how considerations involving learning pedagogies and practices, technological innovations, relationships and collaboration, learner personalisation, organisational systems and structures, and mixed methods teaching and learning approaches will be used.

In Kool's introduction to the beginnings of the most recent OECD research targeting the development and implementation of ILEs, he points out exactly this notion. Kool asserts that 21st century competencies, innovation and the "pedagogical core - learners, educators, content and resources" need to be re-examined, and that "innovating these core elements requires rethinking of the organisational patterns that deeply structure schools" (OECD, 2013,
This perspective also suggests that these considerations must underpin school change in order to design well for the use of space and time in learning environments thereby allowing learning to happen which is supported by this more flexible approach (2013).

**Interdisciplinary Research in order to Progress ILE Innovation**

The OECD's first comprehensive multi-case study begins to tackle the questions about how and why ILEs are developed. However, there is little empirical data informing this rapidly spreading change in the education sector. Nor is there a wide variety of localised research on how different parts of the educational ecological systems, (including, communities, their cultures, their histories, and economic and political influences) must plan accordingly, or how this impacts how communities might go about planning to implement an ILE approach to schooling. Indeed, a wider range of communities using and sharing more methodologies and interdisciplinary perspectives must become a priority in order to support and develop how communities decide to adopt and design ILE - or even if they should undertake this work or not.

Initial thinking about the learning environment as a component of how schools do teaching and learning includes educational philosophies and approaches including, but not limited to, the Reggio Emelia approach, the Steiner Waldorf schools, and more recently the Nature Kindergarten schools. These earlier approaches to thinking about the holistic nature of learning environments incorporate the educational philosophy that the environment and how its involvements in learning interactions are key to the learning of individuals. These approaches can be identified as some of the earliest thinking about schools and learning in this way. It is also of note that these predate approaches used in New Zealand in the 1960's
and 1970’s known as flexible learning environments (FLSs), or open plan learning environments (OPLEs). They also include a pedagogical and practice based analysis (as opposed to a solely physical design and space based approach) of how to develop learning environments. Their thinking about the use, manipulation and interaction between teacher, learner and the physical environment was a precursor to some of the questions that have been posed more recently in a wider variety of arenas, in order to support a more innovative approach to learning. (Könings, Brand-Gruwel, & Merriënboer, 2005).

A second area of thinking that has developed more rigour in its involvement in the area of ILE design is within the world of architecture and interior design. The more recent advent of highly specialised architecture for educational design purposes has propelled the work of the likes of Fielding and Nair (2008) to the forefront of the field of school design in connection with the overarching goals of educational reform or, more appropriately, disruptive evolution. The addition of an architectural psychology approach to the design of ILEs have contributed greatly to the ability to break down the issues facing the changing landscape of education and the physical environments in which this learning is meant to happen. Nair in particular has closed the divide between educational theory and how spaces are created and used to better facilitate this learning. In addition, he has also highlighted many of the issues facing the new holistic design approach to education even beyond building and space design, to tackle such issues as bureaucracies which impede change and evolution in our learning environments and consequently the learning itself. Nair also advocates for human centred design in educational contexts and learning design which is inclusive of context and diversity, collaboration, innovative thinking and dispositions, formative focus and the role of leadership, more tightly connecting the world of research with educational practice.
in order to ensure ILE design reflects the needs of all stakeholders and best practice (2008). In addition, the introduction of diagrammatic models (2005) and assertion of a common language in ILE design have further solidified the way in which the learning environment can be contextualised and discussed.

In turn, this interdisciplinary approach must also include Thornburg’s perspective on space and purposeful use of the physical design in educational spaces. The educational futurist advocates for a ‘learning studio model’ in which the purposes or modalities of learning are further broken down, in order to address the range of artefacts, purposes and communities of learning. For example, Thornburg’s notion of the “Primordial Metaphors for Learning in the 21st century”, initially developed prior to the advent of the ILE becoming a mainstream topic of educational concern, is premised on the theories of constructivism, connectivism, and the ideal of using time and space flexibly to support a “best fit” situation in terms of matching learning to purpose and space (2007). Thornburg asserts that the use of ‘archetypal spaces’ promotes a different sort of pedagogy and practice, and that ensures environment and purposes align with a duties-focused agenda and ideology base. The very notion of environment can transcend even the physical and the digital to a world of holodecks, and simulated, augmented and virtual realities to support learning (2010). Thornburg’s archetypes and holodeck theory of designed learning environments is arguably one of the most influential in the field of ILEs design today. This is also largely due to the synergy between his perspective and its alignment with designers and architectural approaches such as Fielding and Nair. These theorists highlight how the approach of different disciplines is pivotal to developing a deeper understanding of the importance of the educational and multi-disciplinary research catching up with practice to provide a more
complete picture of the effect of modifying the learning environment to match and work alongside better pedagogies and learning practices.

Another angle in which ILEs have begun to be explored is through conventional empirical research, including case studies, qualitative analysis of student, teacher and administrative voices of their experiences in ILEs, and data collection of learning outcomes stemming from ILE environments. Hattie's massive meta-analysis may have been the first in which the learning environment was explored and cross-analysed in depth in order to ascertain its effect size on overall student achievement outcomes. While it can be argued that the effect size of the environments according to Hattie, (2009) may not initially be worthy of spending massive reserves of both time and money on, it should be noted that the meta-analysis did not implicitly look at the effect size of ILEs in terms of measurements against the different types of traditional learning outcomes that much of the data in the meta-analysis examined. Further, the pedagogical learning outcome focus in many ILE schools revolves around a new approach to knowledge, skill and disposition acquisition which is yet to be measurable in an empirical study.

CERI’s OECD report on ILEs also began a more specific look at 55 case studies in order to begin to draw more specific and situated conclusions about those factors which define a shared and informed understanding of ILEs. The study also looks at what makes them more effective and how they meet the underlying principles and practices that the OECD identify as pivotal in driving innovative learning experiences (2013.)
Yet another perspective for analysing the impact on ILEs on learning is the synergy between ILE purposes and pedagogies and that of Kaupapa Maori. This concept is new but is seen being integrated into many New Zealand Schools. It has the potential to impact indigenous learners positively, in terms of inclusivity, as well as opportunities for incorporating a wider range of knowledge and learning modes for many learners in New Zealand. It is justifiable to that there are many aspects of Kaupapa Maori which have synergy with the principles of ILE design and purpose. These comparisons and inferences in turn also have the potential to inform and articulate further areas of analysis, particularly within the New Zealand ILE localisation context. From the outset it is important to acknowledge that specific research pertaining to this relationship and its impact on learning and learning outcomes for learners, and in particular Maori learners, is not abundant. However, when considering and critically comparing the principles of ILEs and those of Kaupapa Maori, there are some immediate synergies and relevant inferences evident that suggest these connections warrant further inspection in the future for both Kaupapa Maori knowledge and research as well as research specific to ILEs. In particular, there are several similarities that can be identified.

- The Kaupapa Maori principle of Tino Rangatiratanga (self-determination) could be seen to relate directly to the ILE design principles which centres on ensuring that student-centeredness and directedness are built into the heart of the design. Just as Tino Rangatiratanga is about the goal of being able to determine Maori’s own culture, aspirations, and destiny (Rangahau, 2014), so too, the successful ILE should be a space in which every learner should be able to achieve these aspirations.

- The Kaupapa Maori principle of Ata (principle of growing respectful relationships) could potentially align with the principles and theories of collective learning,
collaboration, connectivity, and the importance of the relationships between the learners and their peers, their teachers, the community, and the environment and the intentions and actions which guide this principle and outcome also share key values and knowledge with Ata. Rangahau includes the following in their overview of the approach: Ata acknowledges how relational boundaries are negotiated, how safe spaces are created and maintained through behaviours, and acknowledges the notions of time and place, strategic attention to respectfulness and reciprocity, and that transformational processes are integral to *whakawhanaungatanga*.

("Principles of Kaupapa Maori", Rangahau.co.nz )

Indeed, read in an ILE context, the principles of Ata unquestionably describe most of the central components to which ILE design and theory should hold. As the advent and adoption of ILEs continues to spread rapidly throughout New Zealand, considering the implications of a Kaupapa Maori approach to how New Zealanders think about the ways in which they design and learn in these spaces is an area that clearly warrants further investigation.¹

Furthermore, a socio-historical or cultural as well as educational research and Kaupapa Maori methodology and approach to ILEs could be considered particularly in terms of examining further synergies between the purposes, successes, and outcomes of Marae a-Kura, or the inclusion of Marae in schools. This very deliberate space design and its origins are examined in more detail by Lee, and also have strong links to ILE theory. Lee's qualitative

¹ Heemi McDonald, a New Zealand educator and blogger working in a prominent ILE, reflects on this synergy in his blog post, *MLEs (Marae Learning Environments) – Lessons from the Marae for Modern Learning Environments*. While it is not formal research, it is a valuable professional reflection and is worth further investigation.
research and interviews of three different schools around the whakapapa of their school marae, with a Kaupapa Maori approach to the socio-historical implications of the school marae, describe this design feature of the learning environment as a physical manifestation. Included are not only the people, land, and knowledge, but also the notion that the function of the school Marae should guide relationships and the connections of all stakeholders in the school community to form connections to place, people and history (Lee, 2012). Similarly, Cooper advocates for geopolitical investigation as well as an epistemological perspective on how space, place, geography and theory influence how knowledge and culture are perceived and therefore valued and imparted (Cooper, 2012). While Cooper's assertions are not directly related to the concept of ILEs, Kaupapa Maori, and their influence on Maori learners and knowledge, the ideas and approaches that he advocates are relevant to the study of ILEs in that if the design, pedagogy, use and outcomes of an ILE are to be successful, particularly in a New Zealand context, they must also be examined through these lenses and ensure that their principles are aligned and are not in any way mutually exclusive in order to ensure that all knowledge is valued and has the opportunity to be explored within this inclusive ILE framework (Cooper, 2012).

Finally, Kaupapa Maori approaches to architecture, and perhaps in particular contemporary approaches to Maori architectural and Marae design theory, can also contribute to the understanding, research, and design of ILEs. Hutuna describes the key elements of contemporary Maori architectural theory and includes three elements of particular relevance to ILE design. The underpinning values and principles of kotahitanga, "collective cooperative and effective partnerships and collaboration with the community" (Hutana, 2011, p.26), and whanaungatanga, "participation and membership in the community"
and social setting” (Hutana, 2011, p.26). These relate particularly well to ILE philosophy, and because of the ethos therein, should also be included as a legitimate architectural theory within the realm of a Kaupapa Maori approach to design which has the scope and potential to influence and inform ILEs in New Zealand in particular. As this area of research develops, including Maori voices, perspectives, knowledge and theories from a range of disciplines as well as communities, ranging from expert research analysis to student voice, to kaumatua and local tangata whenua voice as well as others, all have the potential to add to thinking about, localising, and designing of ILEs that meet their goals and community objectives.

Critical Perspectives on Adoption and Design of ILEs

There is no denying that popular commentary around ILE adoption in New Zealand is rapidly gaining momentum. This commentary is particular tends to polarise affection for the superficial good looks of most ILEs and concern over the potential implications of changes to physical spaces. Critics also exist who have learner outcomes and achievement at the centre of their concerns. One of the key areas of contention is in regards to pedagogical and attitudinal shifts connected to the nature of learning and learning interactions in ILEs and the perceived loss of “formal learning” or "direct instruction" from the repertoire of pedagogical approaches used by ILE schools. The physical environment in traditional layouts may not only promote more traditional modes of learning, but may also, in fact, act as a barrier to in terms of creating space and value for these styles of pedagogy. As technology, collaboration, learner centeredness, active, innovative, and problem-solving based learning are deeply entrenched in the vision and pedagogy driving the advent of ILEs, the lack of evidence-based research which support these ‘21st century’ learning modes partially justifies the concerns of
educationalists who have a range of data and time tested methods of direct instruction attesting to their approaches. These concerns cannot be discounted. McGuire and Gubbins offer a sound critique of the implications of the trend to ILE environments and identify the increasing use of technology leading to programme design changes; experiential-based pedagogies used to increase flexibility in teaching approaches; the influence of a wider range of disparate stakeholders in training and education; and the impact of the "access and diversity agenda" and its influence in promoting informal modes of learning and education. These are the key elements which McGuire and Gubbins asset are misguidedly driving the current state of educational reform and the changes to the learning environment,( 2010). They go on to assert that these elements serve to not only cause confusion amongst educators as to what their role in the learning process is, but also lead to a systemic loss of deep learning and a focus away from knowledge-based curriculum and achievement. They continue to assert that this loss propels the education sector into a state of unbalance in which only functional and thinking skills are valued, taught and acquired, and a range of specialist knowledge and intellectualism are lost. The outcome is an undermining of the quality of the thought processes emphasised in a more informal learning environment. Similarly, Svensson, Ellström and Aberg assert that, in fact, the informal learning that is facilitated in an ILE is only truly rigorous and intellectually sound when the "conceptual tools and explicit knowledge" gained by an individual through formal learning are then used to interpret, evaluate and identify learning experiences (as cited in McGuire and Gubbins, 2010, p.32). Conlon goes even further to identify that informal learning, such as the learning implied and best supported in ILEs, with a lack of considered direct instruction, can result in learners experiencing frustration, lack of direction, and even anger which therefore risks the result of damaging motivation, morale and performance (as cited in McGuire and Gubbins, 2010).
Another, more common critique of the early and perceived mass adoption of ILEs without a wider range of empirical and qualitative evidence to support the implementation of learning environment design changes is around the expenditure. Kraftl summarises this critique of ILEs as a misguided allegorical utopian vision of what the future may hold, without any justification built on comparative or widely researched and verified outcomes (2011). In addition, this analysis is very closely connected to the concern that the public aesthetic appeal that a neo-liberal architecture and agenda combined with a “radical vision for schooling and society” (Kraftl, 2010, p.2) is used for political popularity in the education platform in order to influence voter preference in order to gain political power and gain favourable popular opinion. Indeed Kraftl’s concerns had some legitimate weight particularly in 2010. This was before the onset of a wide and in-depth range of research, student and learning community stakeholder gathering and both qualitative and quantitative data collection on ILE theory into practice began in earnest in, arguably, 2012. However, since then, the latest comprehensive OECD report, a wide range of international government research initiatives, and professional research have all begun to present an ever growing body of data supporting the need to just this sort of educational design intervention in order to support the modern learning outcomes and curriculum that are also becoming the accepted mainstream and scholarly opinion.

Localisation of Learning and the ILE

Taylor describes “localization” as “…freedom for schools or local education authorities to adapt this curriculum to local conditions” (2004, p.2), and “…relating the content of the curriculum and the processes of teaching and learning to the local environment” (2004, p.3).
Often traditional curriculum design is too rigid and does not have any relevance to the lives of the learners. The relevance of the learning to both learners and their communities is at the heart of localisation advocates at both the government and policy development end and within schools at the administerial and day-to-day operations end of school and learning design. Localisation and relevance are at the heart of ILE planning which also stresses the personalised and flexible holistic learning environment as being crucial in planning for learning in an ILE. Similarly, *The School’s Project* blog offers the following critique of non-localised learning in the following: “This lack of relevance weakens the mentioned connection and bond between communities, learners, and schools; and thus damages educational outcomes through decreased student, community, and teacher engagement in the learning process” (Dow, 2016). Miller addresses this issue of non-localised traditional curriculum by asserting that “It is believed that by making learning in school relevant and meaningful to the children’s everyday lives and needs, the interaction between child and school will become a more active and enriching experience [...]”, while Elmore elaborates and asserts that “giving schools additional autonomy and subsequent responsibility that decentralization demands, and increasing, or strengthening, the link between local communities and school curricula, we can predict that schooling outcomes will be reasonably improved” (Elmore, p.34). Similarly the United Nations Educational, Scientific, and Cultural Organisation’s (UNESCO) recommendations around global movement towards localised curriculum policy are firmly based in their view that “A crucial dimension of quality education is that of relevance of curricula content; the diversity of local (sub national), cultural, and socio-economic realities” (2002, p. 13).

The process of localisation of ILEs in New Zealand has also focused heavily on the processes for stakeholder and community engagement and *whakawhanaungatanga* - building
and maintaining relationships. Adhering to the principles of ILE planning (according to CERI’s 2013 ILE identifiers) and developing processes and plans that fit these principles, requires that local stakeholders, features of the setting and more generally, “communities are tasked with identifying topics of local importance and incorporating these into the school plan” (Dhorsan and Chachualo, 2008, p.200). This involvement has not historically been a part of school planning and development. The processes involved in making decisions about a school’s learning that are made in conjunction with a community with the intention of implementing them in an ILE are crucial to how the localisation process leads to the implementation plan.

In New Zealand, the focus on localising the national curriculum document and the connection between localisation and the mandated movement towards developing schools as ILEs is referenced in its school and community resource on ILEs. The New Zealand Ministry of Education highlights that its “State schools must follow the National Curriculum, but are free to determine their own educational vision and translate this into how teaching and learning takes place within its facilities” (MOE, 2015). NZCER researchers Bolstad et al. support the movement towards localisation and highlight that “learning needs to be more connected with the community ... (and that) teachers still need strong pedagogical knowledge, but they also need to be able to collaborate with other people who can provide specific kinds of expertise, knowledge or access to learning opportunities in community contexts” (Bolstad et al, 2012, p. 6).

UNESCO’s research into the success of localised approaches to school development also identified the key challenges in localisation as curriculum and learning being very reliant on teacher capacity, local demand and ownership of the learning, a lack of clarity in policy
creation, external standardised assessments and implications for tertiary study and lack of funding as being pivotal to the success or failure of a localised curriculum.

The very nature of localisation, a school’s ability to address this effectively, and its relationship with how an ILE is designed means that the individual experiences and cases of schools in New Zealand can provide valuable insights into the challenges and processes that are undertaken in order to work towards this aim. At present, there are no New Zealand case studies which detail what processes a school uses in order to localise its curriculum, operationalise its vision, and describe its successes, challenges, and idiosyncrasies, or the ‘why’ of how these processes were determined. As a result, this is a noticeable gap in the literature for the New Zealand community of practice.

Change & Innovation Processes in Education and ILE Development

Education reform and transformation have been increasingly important themes in the global education sector’s literature, design, discussion and practice over the last two to three decades. However, the shift in paradigm to both localisation and ILE design has also seen a shift in the sector’s approach to change management and how to go about the processes of innovating effectively for these purposes. While schools have historically operated on a model of incremental improvement, innovation in education and the process now being applied in this community of practice have begun to evolve. Innovation and its associated processes can arguably be described broadly as processes, products and/or services. In many ways education and the ongoing operation of a school fall under all three categories (Kanter, 2000). Experience of leaders in the New Zealand community of practice in innovating education particularly in regards to localisation and developing ILEs include Maurie Abraham
and Claire Amos of Hobsonville Point Secondary School, and Sarah Martin of Stonefields School. Leadership at both schools blog about the different design processes their schools are using to innovate and develop their ILEs and localised curriculum. Abraham and Amos describe their decisions to use design thinking, leveraging enabling constraints and iterating and reiterating the developments in their schools. Key themes from them and other similar ILE and localised schools such as Hingaia Peninsula, Alfriston College, and Ormiston Primary School also focus on developing mindsets and dispositions in their staff for innovation and the use of processes to fit these. Abraham gives an overview of key focus areas in his school’s approach in the following: “schools need to choose how to respond to the disruptive innovation we are in the middle of right now. We can respond how the Swiss Watch Industry did to their own invention of a digital watch (sell the idea and die) or we can be agile and reposition ourselves as centres focusing on the dispositional curriculum, critical thinking, problem-solving and collaboration” (Abrams, 2014).

He offers up processes such as GPILSEO (Goal, Pedagogy, Institution, Leadership, Spread, Evidence, Ownership) model of change leadership, collaborative professional inquiry and using design thinking as core components of some of the strategies and processes they use in order to work on planning for, implementing and developing their ILE and localised curriculum. Professional sharing by leaders such as Abrams, Amos, Martin and numerous others has also led to the larger community of practice beginning to think about their own learning environments in this way and to use a wider variety of processes associated with disruption and innovation to better understand their communities and plan for their contexts. The range of professional learning network content via twitter, blogs, vlogs, facebook and sites dedicated to teacher, community and school sharing around their schools, experiences and education itself is vast and growing. However, there still remains very little formal study
done which describes in full the drivers for ILE implementation planning, and the processes each school undertakes in order to arrive at implementation and iteration plans and phases. Bolstad and Gilbert et al (2012) also directly address the need for a New Zealand perspective and synthesise the emerging practices of both local and international innovation experiences in education. Their work also identifies two processes which they describe as key to innovating schools for their context. “Unbundling” and “Changing the Script” (Bolstad and Gilbert et al, 2012) are two ways of approaching re-thinking how the sector may need to go about understanding the historic influences and contemporary drivers that each school needs to address in order to support a more contemporary pedagogy. It is also worth noting that the principles they advocate for do not address the emergence of the ILE, however, they do align very closely with those articulated in the OECD’s 2017 Handbook for Innovative Learning Environments. The current lack of New Zealand specific reference to how schools go about this work specifically is yet another gap in the literature which the proposed research would address directly.

**Ecological Systems Thinking and the ILE**

One model of looking at the nature of schools and learning as a web of interconnected physical and social interactions stems from ecological systems thinking. Bronfenbrenner (1992), OECD (2017), and Hannen & Freeman (1993), all argue that for real change or innovation to take place in education, it is valuable to use an ecological systems thinking framework in order to better understand the nature of the interconnected network that each school is a part of. The OECD’s 2017 Handbook for Innovative Learning Environments asserts that based on the sample of global case studies completed on ILEs, approaches to innovation and school change that acknowledged and addressed the different levels of interactions
within their learning ecosystems were able to strengthen their initiative regardless of which lens or thinking level each particular innovation focused on (OECD, 2017). This approach to thinking about school organisations as ecologies rather than hierarchical structures seems to acknowledge the many competing and interconnecting forces that schools have to contend with, particularly when trying to innovate or reform education for their communities.

Bronfenbrenner (1992) elaborates on how complex layers around the learner interact and influence the learning for each individual human being. In Bronfenbrenner’s model, these can be broken into the following structures:

- The microsystem: the layer closest to and in direct contact with the child. The microsystem is made up of all the direct interactions around the child, but is also influenced by the other systems;
- the mesosystem: this layer involves all of the connections between the components of the child’s microsystem;
- the exosystem: The structures in this layer interact with the systems in the child’s mesosystem and potentially discrete or separate parts of the microsystem. They include the broader social system;
- the macrosystem: Berk (2002) describes this layer as being made up of cultural norms, laws, and values that impact on the other systems;
- the chronosystem: This system describes the relation of time to the individual and when pivotal events occur in relation to the cognitive, emotional and social developmental stages of childhood. (Bronfenbrenner, 1992)

Bronfenbrenner clearly argues that the role of school and policy and how schools are developed, play major roles in the systems that impact on the child. Similarly, Zittler and
Hoeve (2012) elaborate on this concept, and begin to articulate the countless formal and informal networks that make up the learning ecosystem both within and beyond the walls of schools. In 2016, the OECD acknowledged this changing perspective on the organisational structures and understanding of schools as complex ecologies and asserted “traditional approaches . . . are too narrow to effectively address the rapidly evolving and sprawling ecosystems that are modern educational systems” (OECD 2013, p.6). In its most recent large scale publication on ILE implementation, the OECD also use a similar framework to describe their perspective on the placement of the school within its own ecological framework based on their seminal multi-case study work on ILEs in 2015.

- The *micro* level - learning resources and spaces, teaching and learning episodes, pedagogical relationships;
- The more holistic level of the *learning environment*, integrating the micro elements around organic units which share a pedagogical core and learning leadership. Learning environments need not be schools, though many of the ILE examples have been.
- The *meso* level, comprised of the many compounds of networks, communities, chains, and initiatives. This level is largely invisible in formal system charts and yet it is critical for growing and sustaining innovative learning.
- The *meta* level is a summary umbrella for all the learning environments and meso-level arrangements within whichever system boundaries make sense for the question in hand. (OECD, 2017)

The ILE handbook presents a framework of tools and exercises and elaborates on how these levels must be considered in order to plan for, implement and evaluate successful ILEs.
Organisational ecological systems thinking has been applied to the study of educational reform and school change by both insider researchers and outside researchers, ranging from leadership of schools through to policy study (Hannan & Freeman, 2009). In their work on organisational ecology, they also point out that

“Ecological research requires an understanding of the institutional contexts of organizational populations ... Whatever the source, good research on the dynamics of organizational populations, which may be highly quantitative, relies on qualitative studies for realistic specification of models and useful research designs.”

(Hannan & Freeman, 2009)

Anderson and Johnson (2012) echo this sentiment in their call for *A New Model: Schools as Ecosystems*. The educators argue that:

There are principles for maintaining a healthy ecosystem that can provide guidance in strengthening our school environments [...] Just as healthy ecosystems might come in a myriad of forms, healthy school environments may come in a wide variety of shapes and sizes, dependent on specific local community needs and circumstances. That said, healthy school environments, like ecosystems, are guided and cultivated by a set of core principles. (Anderson and Johnson, 2012)

Their view is particularly linked to school reform and revisioning ways that schools can view themselves in order to better serve their communities in an equitable and innovative manner.
The ecological systems thinking perspective is, therefore, a recent organisational lens that is closely connected to understanding the many principles, elements, drivers and processes that any community must consider in order to successfully localise and plan for its learning ecosystem and is of particular importance when considering ILE development.

Considerations for further research

Increasingly, the adoption of the ILE design and principles driving learning outcomes within these environments is becoming more and more mainstream. In turn, the need for more in-depth research, from a wide range of fields, experts, and sources will be needed in order to evaluate the effectiveness of each aspect of the ILE design and learning philosophy to ensure they are meeting the lofty outcomes they intend – and most importantly for a wider range of learners and contexts than traditional learning environments and models currently do. Of particular interest would be the use of indigenous lenses for research in order to evaluate ILE models due to the apparent synergy in value and principle systems and thinking between these innovative models and indigenous values. In addition, the multi-disciplinary approach will also be crucial in being able to build on current success using a wider knowledge base, and, in fact, the same collaborative and connectivist paradigms that are promoted within the implementation goals of a true ILE. Gathering a range of voices, incorporating theories of situated learning, and both educational and architectural psychology will all play a role in enhancing the ability of future ILEs to be interwoven with, supportive of, and integral to deeper learning and guiding 21st century and futures models of education, schools, curriculum intentions and design considerations.
drive each ILEs creation. It considers 3 encompassing elements as key to shared research based definitions of ILEs. These include Relational Elements, Learning Elements, and Organisational Elements that make up an ILE and are also each made up of a variety of other inter-connected components and considerations. It also gives an overview of the existing research with specific reference to the New Zealand experience and mandate for ILE development in New Zealand schools. The review also puts forth the argument for localisation being a key aspect to how ILEs are designed and developed in implementation planning for their learning communities. Finally, a case is made for viewing schools, and ILE development and implementation in particular, as being viewed through the lens of ecological systems thinking in order to best consider the competing and connected forces that

Chapter 4: Research Methodology

Research Paradigm

This study adopted a participant-researcher perspective to a qualitative multi-method approach to investigate the drivers and processes used in developing Ormiston Junior College’s (OJC) implementation plan.
Qualitative Research

Yin (2011) describes qualitative research as a process in which the researcher sets out with a question (or theory) and makes an inquiry into that question. Denzin and Lincoln (2011) also describe qualitative research as an inquiry project. Mutch (2013) and Stake (2010) further expand on the properties of qualitative research as emphasising human understanding and perceptions of their own experiences and realities by using a range of sources of evidence in order to more thoroughly investigate the inquiry question. By employing a qualitative approach to the research project, the experiences of the stakeholders could be taken into account, and the different creators and contributors to the various documents would have their narrative and experiences reflected in the findings and final research outcomes.

Participant Research

While participant research at times is portrayed as lacking rigor, purpose, or status, there are also contrary arguments to be made for each point (Anderson, 2001). Insider accounts must have robust criteria for validity, and ways of mitigating potential bias or coercion. This is particularly necessary in order for participant research to be of any real use to the immediate and wider community of practice (Metz, 2001). In fact, carrying out robust insider research has the potential for greater personal, professional, and organizational learning (Miller, 1990), an approach to authentic staff development, professional renewal, and school reform (Gitlin et al., 1992), and a new way of thinking about knowledge creation, dissemination, and utilization in schools (Carr & Kemmis, 1983), as cited in Anderson (2001).
In particular, undertaking practitioner research in an applied field such as education has immense benefits for the researcher’s personal practice, the immediate community of practice, and the wider education community, as the localised idiosyncrasies of the research subject are uncovered by an expert in that particular context. In this particular case, investigating the drivers and processes used to create the plan from an insider perspective allowed me to more accurately reflect on the complex nature of the school’s developing ecology as an interconnected system and its connection to the local community.

The importance of mitigating possible validity issues was of the utmost importance for this study. This was done through the ongoing guidance of the researcher’s advisors, by ensuring the literature was from a range of sources well outside my usual scope of work, and by undertaking a multi-method data collection approach which included stakeholder voices. These factors ensured that the analysis process was not reliant on the researcher’s sole interpretation of documents, drivers and processes used in creating the plan.

**Case Study Methodology**

The selected methodology was that of a case study. This methodology enabled the researcher to collect and analyse a broad range of formal and informal, personal and public documents in addition to specific perspectives shared via questionnaires on the creation of the implementation plan for OJC. The methodology served to enforce the principles of this type of research that emphasize the detailed accounting of the qualities that make the case unique to that time and place. Without an insider perspective, gathering the relevant data and understanding the interconnectedness of the data would have been significantly more difficult.
or even impossible. Additionally, action research and case study methods in particular are not foreign to education (Cohen, Mannion, & Morrison, 2000; Hamilton & Corbitt-Wittier, 2013; Simons, 2009). It can be asserted, therefore, that the case study approach and its particular variants are especially well-suited to investigating issues or questions for both the immediate community of practice at OJC, but also to the wider New Zealand educational community. This approach is a particularly good fit for this study as it reflects the nature of localisation in the literature and complexity of specific educational ecologies which played roles in creating the implementation plan.

Finally, of particular note is the lack overall of the application of a case study methodology regarding innovative learning environments (ILE) within New Zealand. Specifically, the “newness” of ILEs and their associated pedagogies and practices within a rapidly evolving industry means that the “focus on dialogue and reflexive engagement” as well as the “interaction between theories emerging from inquiry into social practice” (Noffke & Someich, 2009, p. 18) make this topic an excellent area for applied practice and case study research. In addition, the MOE has mandated that New Zealand schools are required to approach the design to any new builds by using the “Innovative Learning Environment Assessment Tool” (Ministry of Education, 2015). This tool incorporates meeting the requirements of insulation, heating, acoustics, sustainability and lighting as well as ensuring the spaces are designed to allow a range of learning spaces that cater for individuals and various group sizes. The spaces themselves will range in size, and consideration will be given to how they will enable technological innovation and enhancement of learning, allowing for purposeful and flexible use of a variety of learning settings and spaces. (Ministry of Education, 2015c; Shank, 2005)

However, despite this mandate, no case studies or recommendations currently exist which
illustrate ways that schools might go about planning for how to make these things happen. Similarly, the lessons learned from those schools who have been through this work are not available to the wider community. Finally, narratives that tell the stories of how schools might localise their plans to best fit their communities, or how to address the complexity of the relationships between the different elements in their planned ILE, are simply not available in New Zealand at this time. These gaps in the literature explored in Chapter three also provide justification for undertaking this research as a case study.

**Research Design & Methods**

In order to achieve the research aims and objectives, a case study method was used to structure the research project. This also informed the methods and focused on how to collect accurate data. This research method studied the development of the case over a specific period of time. The case study method was thought to be the best perspective for this project because it would allow for the idiosyncrasies of the individual case to be examined in-depth within the context of the case. This was taken into consideration to specifically reflect the recognition of the aspects of localisation and ecological systems thinking perspectives in relation to the development of ILEs. In addition, the case study focused on describing the case rather than focusing on an evaluative outcome. Again, this epistemological approach reflects the research questions, aims and objectives in their quest to describe one school’s journey to an implementation plan for its ILE. In the case of OJC and this research proposal, the period of time of most interest was the implementation planning phase of OJC’s Implementation Plan as study of processes and drivers used to develop ILE implementation plans is a major gap identified in the current research. In addition, completing case study research on the development of a new school and school model is an opportunity that does not arise particularly often in this community of practice. This method
also allowed for both anticipated and unanticipated outcomes to be uncovered and more accurately represented as parts of the whole case. The case study framework helped to avoid misrepresentation of data anomalies which could potentially occur if another method was used. To complete the case study, a thorough document analysis was carried out of all documents related to the drivers and processes contributing the the case’s implementation plan. The document analysis was then followed by a stakeholder questionnaire designed to validate the inferences made from the document analysis, identify any outliers to the document analysis data, or clarify any misinterpretations or misrepresentations the researcher might have made in the document analysis. Finally, the outcomes of both methods were written up and presented in a series of vignettes which address each of the ILE elements, drivers and key processes used during the creation of the implementation plan. In this way, the data and analysis form the basis for the report which includes the events telling the story of the chosen processes and the motivation for the use of those processes in the case. In addition, the ecological connections between different areas will also be articulated both in the vignettes and in a series of figures.

Data Collection Methods, Procedures & Analysis

This case study used two types of data collection methods:

1. A document analysis of organisational, open source, private and personal relevant documents;
2. the use of two questionnaires of all willing staff stakeholders involved in developing the school’s plan (All documents studied are a result of of the natural day-to-day functions and design of OJC, while participation in the questionnaire are outside the normal scope of operations and are for research purposes only).
Details specific to each data collection method within the case study follows.

Document Analysis

Document analysis formed a large part of the data collection within the case study’s research design. Document analysis in this case was particularly relevant as it served to identify driver and process information embedded in the following:

- Documents and research used to identify drivers for OJC design;
- documents and research used, which illustrate processes and learnings used for design process of OJC, and
- documents and research used which illustrate the design of OJC.

Documents that were used in the analytical process included, but were not limited to:

- Educational and cross-sector readings and research the stakeholders used to identify drivers and inform the design process;
- community consultation documents and outcomes of stakeholder collaboration and learning (physical documents);
- planning documents created for operationalisation, including MOE-required documentation and processes (public records);
- operationalisation documents which detail key elements of the OJC design process;
- process documents and internal communications which document processes undertaken (personal internal documents).

An overview of the document analysis approach is included in the following table in Table 1.
Table 1

Alignment of how the Document Analysis Addressed the Study’s Aims and Objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 1</strong></td>
<td>To describe the drivers for the development of OJC Plan;</td>
</tr>
<tr>
<td><strong>Objective 2</strong></td>
<td>To describe the development of principles and procedures for working together to create the OJC ILE implementation plan;</td>
</tr>
<tr>
<td><strong>Objective 3</strong></td>
<td>To describe the process used to develop the OJC Plan;</td>
</tr>
<tr>
<td><strong>Objective 4</strong></td>
<td>To comprehensively chronicle the process by which the implementation plan was created;</td>
</tr>
<tr>
<td><strong>Objective 5</strong></td>
<td>To identify and describe how the defined ILE elements are addressed in the OJC implementation plan as well as the process for arriving at them and the process for their inclusion as well as their intended purpose;</td>
</tr>
<tr>
<td><strong>Objective 6</strong></td>
<td>To analyse and interpret these processes to identify common themes which have implications for the OJC community of practice as well as the extended community of practice in education.</td>
</tr>
</tbody>
</table>

**Note:** All document categories collected and analysed support this project’s objectives:

<table>
<thead>
<tr>
<th>Documentation Analysed</th>
<th>Purpose</th>
<th>Participants</th>
<th>Analysis Method and Considerations</th>
</tr>
</thead>
</table>
| Internal Design-Related Correspondence (Slack and Trello archives) *Inter-organisation Communication Document Type* | To collect working systems and design documentation and informal and formal perspectives and decisions for design | Documentation from leaders of learning Team digital tools | In the analysis of this data the following key considerations will be used for themed codification: Type of document and unique characteristics  
- When during the design process it was written |
| Key readings and research documents used for guiding vision, values, principles and practices | To collect key resources used as inspiration, design principles for decisions and design | Documentation from Leaders of Learning readings selections (research, books, and articles by various published authors) | and by whom
- Purpose and content of the document
- Key themes arising or expected themes that do not occur in the documents

| Strategic plan and operational overview documents (including: strategic plan, ministry priorities, policies and procedures) | To collect and analyse official organisational documents | Documentation from Leaders of Learning and Establishment Board of Trustees | All documents to be analysed are a part of the everyday practice and design process associated with the design of OJC. They are not documents that are created or used specifically for the research project.

| Key Internal Planning Documents: (Including Timelines, Induction Planning, and Learning Planning Documents) | To collect and analyse planning documentation pertinent to design and operationalisation | Documentation from Leaders of Learning and Learning Designers’ planning archives |

**Timeline:**
This data collection method began immediately following ethics approval of the research project: April, 2017. It is anticipated that the total time needed to complete the analysis of this data was six weeks.

| Table 1 |

**Thematic Coding and Analysis of Documents**

The analytical process that the document data extrapolation followed was informed by the Institute of Development Studies guidelines “Learning About Qualitative Document Analysis” (2013), which focuses on the importance of first the setting of criteria for inclusion of documents, codifying based upon observational data and trends and articulating key areas of analysis as based
on the research aims and objectives. This approach to analysing the data can be classified as thematic analysis, as defined by Mahrer (1988), Spradley (1979), and Taylor & Bogdan (1984). While this analysis method is not education-sector specific, the methodology is a scalable approach to realistically completing this research as a Masters thesis project. The document analysis employed a concept chart analysis approach based on Aronson (1994) and IDS guidelines (2013) that aligns the drivers and processes identified in the documents with the elements of ILE implementation that are addressed in OJC’s implementation plan\(^2\). The foundation team involved in this work also went about systematising its approach. This has been organised as a part of the organisational development of the school, and all processes and ILE elements have been archived along the way through the use of Slack© channels, Google Drive© folders, and alignment with the school’s strategic plan and ongoing self-review procedures. Because of this approach to archiving, completing a document analysis on the processes of an organisation of this size is an achievable task which would otherwise not be possible. Additional support also made the project achievable.

- The proposed inclusion criteria was stringent and relevant to the purpose of the research.
- The documents were already collected and housed in digital and physical storage that the researcher was deeply familiar with as a regular part of the researcher’s scope of work.
- Key areas of analysis were articulated but there was scope for further condensing the pre-identified themes if the findings indicate that this was appropriate.\(^3\)

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\(^2\) The elements headings were based on the OECD case study research and the NZ MOE’s working definition of an ILE as outlined in Chapter three. For the research questionnaire designs, analysis of all data, and relevance in writing up the findings these were; Relational Elements, Learning Elements, and Organisational Elements. The elements are also further described in relation to OJC’s ILE plan in the research findings section.

\(^3\) For example, if the connectedness between elements of the planning were similar or intertwined they were included in the findings as one combined ILE element.
• Coding and analysis was undertaken using the support of *Google Sheets*, which the organisation and researcher used to archive and file data thereby making the sorting of themes and frequencies significantly more manageable.

• Validation of the document analysis findings were done for this project by verifying themes and codes with the team responsible for the processes used to create the implementation plan via the second method used - two staff questionnaires.

It was also important to acknowledge the potential for unanticipated themes to appear throughout the analysis so that all aspects of the design of OJC were accurately documented. In this sense the codification system had to be adaptive in order to allow for the emergence of new themes in the implementation processes and plans, and any other drivers and operationalisation considerations.

Verification of the codification process and analysis process was undertaken by the researcher’s advisors. In addition, this perspective also supported the researcher in the acknowledgement of irrelevant or inadequate areas of data and codification and this in turn to be validated through the analytical process.

**Questionnaires**

In order to best link the research aims with the questionnaire design, the following chart was devised to express the purposes and format of the questionnaire portion of the data collection in this case study. The participants for this portion of the case study included the leadership team and foundation staff of OJC, a total of 14 staff, who were involved in the developing the processes and implementation plan for the College. This method was selected to reflect both their
perspectives as stakeholders, and also to take into account that not every stakeholder is immersed in all elements of each process in the OJC implementation plan or may have experienced different drivers or processes related to discrete elements of the plan. The questionnaire was therefore designed to gather information from an inclusive range of perspectives from all those involved in the processes used to develop all aspects of its implementation plan. In addition, the questionnaires were also designed with open-ended questions due to the small number of participants and are intended to gather rich data from participants who may be considered to be experts in the areas covered by the questions through both their profession and deep involvement in the development of the plan. Participant information and instructions were also clearly articulated in order to ensure that answers accurately reflected the participants’ experiences and they were not obliged to complete prompts that they did not have any close affiliation with during their work on the plan.

Table 2

Alignment of how the Questionnaires Addressed the Study’s Aims and Objectives

<table>
<thead>
<tr>
<th>Research Aims</th>
<th>Research Objectives</th>
<th>Relevant Questions for Questionnaire Data Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIM 1</td>
<td>Objective 4</td>
<td>1. From your perspective, how was it decided that the following key organisational elements incorporated into the OJC ILE implementation plan?</td>
</tr>
<tr>
<td></td>
<td>To comprehensively chronicle the process by which the implementation plan was created</td>
<td>The mixes of groupings in different activities or at different times, including size of groupings</td>
</tr>
<tr>
<td></td>
<td>Objective 5</td>
<td>The composition of groupings (gender, age, race, abilities, personalities, socio-economic background)</td>
</tr>
<tr>
<td></td>
<td>To identify and describe how</td>
<td>The use of time and sequencing of activities over time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The links to other learning environments/schools, including those in other communities and countries</td>
</tr>
</tbody>
</table>
| **the defined ILE elements are addressed in the OJC implementation plan as well as the process for arriving at them and the process for their inclusion as well as their intended purpose** | **The use of technology to support, enhance, or transform the learning**  
The physical set-up of the ILE and locations of learning with their respective rationales  
The design and intended use of the physical environment in light of learning aims and needs of target groups  
Any other key organisational elements |
| --- | --- |

2. **From your perspective, how was it decided that the following key learning aims and elements incorporated into the OJC ILE implementation plan?**
- The development of learners' knowledge and understanding  
- The development of learners' skills  
- The development of learners' attitudes and dispositions  
- The organisation of the intended curriculum  
- The intended pedagogies and theories  
- The assessment pedagogies and methods  
- The values and principles of learning  
- The intended teaching and learning practices and their intended outcomes  
- Any other key learning aims and elements

3. **From your perspective, how was it decided that the following key personnel and relational elements incorporated into the OJC ILE implementation plan?**
- The professional learning and development of staff  
- The overall use of teacher/facilitator resources (including team and individual teaching)  
- The role and skill set of the teacher/facilitator  
- The role, expectations and development of the learners  
- The professional background/s of teachers/facilitators, leadership and/or other staff  
- The roles of senior and middle leadership and the relevant structures and systems  
- The community and stakeholder communication and consultation methods and focus areas  
- The ways in which teachers/facilitators, learners, and other stakeholders interact
### AIM 1
To describe the key drivers and processes used in creating the implementation plan of the ILE for OJC.

<table>
<thead>
<tr>
<th>Objective 2</th>
<th>To describe the development of principles for working together to create the OJC ILE implementation plan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 3</td>
<td>To describe the processes used to develop the OJC ImP.</td>
</tr>
<tr>
<td>Objective 6</td>
<td>To analyse and interpret these processes to identify common themes which have implications for the OJC community of practice as well as the extended community of practice in education</td>
</tr>
</tbody>
</table>

**1. From your perspective, what processes were used to determine the following key organisational elements incorporated into the OJC ILE?**

- The mixes of groupings in different activities or at different times, including size of groupings
- The composition of groupings (gender, age, race, abilities, personalities, socio-economic background)
- The use of time and sequencing of activities over time
- The links to other learning environments/schools, including those in other communities and countries
- The use of technology to support, enhance, or transform the learning
- The physical set-up of the ILE and locations of learning with their respective rationales
- The design and intended use of the physical environment in light of learning aims and needs of target groups
- Any other key organisational elements

**2. From your perspective, what processes were used to determine the following key learning aims and elements incorporated into the OJC ILE implementation plan?**

- The development of learners' knowledge and understanding
- The development of learners' skills
- The development of learners' attitudes and dispositions
- The organisation of the intended curriculum
- The intended pedagogies and theories
- The assessment pedagogies and methods
- The values and principles of learning
- The intended teaching and learning practices and their intended outcomes
- Any other key learning aims and elements

**3. From your perspective, what processes were used to determine the following key personnel and relational elements incorporated into the OJC ILE implementation plan?**

Any other key personnel and relational elements
| The professional learning and development of staff |
| The overall use of teacher/facilitator resources (including team and individual teaching) |
| The role and skill set of the teacher/facilitator |
| The role, expectations and development of the learners |
| The professional background/s of teachers/facilitators, Leadership and/or other staff |
| The roles of senior and middle leadership and the relevant structures and systems |
| The community and stakeholder communication and consultation methods and focus areas |
| The ways in which teachers/facilitators, learners, and other stakeholders interact |
| Any other key personnel and relational elements |

**Note:** The questionnaire is designed under six headings with subheadings and text answers. It also includes a section for extra comments before completion. In addition, the questionnaire is designed as a sample of a potential follow up questionnaire to support clarification and corroboration of data collected in the document analysis. It is not anticipated that the questionnaire would be employed in full, but rather portions of it used where more information is needed to fulfill a research objective as identified in the initial document analysis.

*Table 2*

The use of questionnaires at the end of the data collection process helped to fill in gaps in the initial document analysis and to and confirm identified areas of uncertainty by collecting team perspectives on their experiences throughout the implementation planning. The questionnaires also helped to identify any areas of experience that were not apparent in the document analysis and to add detail in terms of chronological perspectives and specific processes characteristics that the document analysis may not have picked up.

**Participant Profiles and Overview**
There are a range of stakeholders in every New Zealand school and learning community. This means that for the case study, the school’s community of stakeholders must be considered in both the research design and in terms of ethical considerations. The following table in Table 3 reflects the participant descriptions for the successful completion of this research.

Table 3

*Participant Description, Justification for Inclusion, and Nature of Participation*

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<tr>
<th>OJC Stakeholder Group</th>
<th>Justification for Inclusion</th>
<th>Nature of Participation</th>
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<tbody>
<tr>
<td><strong>Establishment Board of Trustees</strong></td>
<td>To ensure the governance and initial drivers, processes and ILE elements of OJC are reflected in the data collection and analysis from the school’s conception</td>
<td>Representatives from the Board of Trustees were asked to submit key documents for confidential analysis and complete the questionnaire portion of data collection if further clarification or corroboration of data was needed (it was not).</td>
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<td>(maximum of eight participants, minimum of two) The board sample size is smaller. This group of people are authorised to speak on one another’s behalf in regard to the school, and all input has been well-documented in minutes, correspondence and policy creation). Inclusion criteria for this group was that they must be members of the foundation Establishment Board of Trustees and part of the implementation plan creation process.</td>
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<td><strong>Leaders of Learning</strong></td>
<td>To ensure that all drivers and processes used to create the implementation plan are accounted for and represented in the data thoroughly and accurately</td>
<td>The Leaders of Learning were asked to submit key documents for confidential analysis and to complete the questionnaire portion of data collection if further clarification or corroboration of data was needed.</td>
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<td>(Senior Leadership team)</td>
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<td>Three participants (or 100%) participation was required to reflect this participant group as this is the total number available for this sample size and group. Inclusion criteria for this group was that they must be members of the foundation leadership team and part of the implementation plan creation process.</td>
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<td><strong>Teaching Staff</strong></td>
<td>To ensure that perspectives on drivers and processes used</td>
<td>Teaching staff were asked to submit key documents for confidential analysis and to complete the questionnaire portion of data collection if further clarification or corroboration of data was needed.</td>
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<td>Maximum of ten participants available,</td>
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and a minimum of eight was required to reflect this participant group (80% participation was required to reflect this participant group as this is the total number available for this sample size and group). Inclusion criteria for this group was that they must be members of the foundation staff and part of the implementation plan creation process.

| in all roles within the organisation involved in creating the implementation plan are accounted for and represented in the data thoroughly and accurately. |
| documents for confidential analysis and complete the questionnaire portion of data collection if further clarification or corroboration of data was needed. |

Table 3

**Ethical Issues**

In this project, one potential ethical issue was the researcher's role as participant researcher in the case. Within the realm of case study research, the researcher is often a person in a trusted position or, who has close proximity to the project, and therefore, due to the nature of that position, the researcher must be an ethical consideration. The researcher must be able to ensure bias is absent, that all participants are given a voice. There may be other ethical issues that arise that cannot be foreseen at the outset of the research as it proceeds. Additionally, it is crucial to ensure that all participants have an authentic voice and that any potential power imbalances are taken into consideration (Yin, 2009). In order to help mitigate this risk, the research was designed to have a validation process through the questionnaire format, and guidance from the advising team was sought regularly along the way to ensure this did not influence or invalidate the project, or put participants, or the organisation involved, at risk. In addition, the researcher did not participate as a stakeholder in the questionnaire portion of the data collection.

Similarly, objectivity and bias must be accounted for and the research was designed with
the intent and commitment to represent accurately the voice and active engagement of the participants. As well, care was taken to minimise disruption of the participants in the research (Stake, 2013). A second potential ethical issue in this project is ensuring authentic informed consent, minimisation of harm, and confidentiality. Within my community of practice, particularly with those professionals who are actively engaged in ILE curriculum pedagogies and practice, a culture of collaboration already exists. This culture has not always been the case within organisations and schools in the NZ education community. Because of the formal nature of the research, and the ongoing nature of sharing in this wider community, it was important that consent, minimisation of harm and confidentiality were all thoroughly explored and made clear to all participants and stakeholders so that clarity and shared understanding was reached about the nature of the data collection and analysis processes, and what those looked like, and their potential implications.

Chapter 5: Findings

The findings of this study are complicated to represent in a chronological or linear sense. There are many complex relationships and influences that happened between all of the identified components of the case during the period of the study. It should also be noted that
this is still the case today and even more so now that the school is operational. The way the plan for Ormiston Junior College’s (OJC) Innovative Learning Environment (ILE) evolved included a number of elements and processes that are not traditionally employed in educational settings. In an article exploring innovation and disruption for Forbes Magazine, Howard (2013) describes disruption as things that are

literally uprooting and changing how we think, behave, do business, learn and go about our day-to-day. Harvard Business School professor and disruption guru Clayton Christensen says that a disruption displaces an existing market, industry, or technology and produces something new and more efficient and worthwhile. It is at once destructive and creative.” (Howard, 2013)

In this way, the team’s openness to incorporating a range of emerging entities in order to innovate a plan for the local context can certainly be seen as disruptive. Similarly, the interwoven principles and processes meant the the plan evolved and included elements which led to the plan developing in the way that it did. The term “evolution” in the biological sense describes change in living things over an extended period of time. Evolution also incorporates the story of how of biological elements came to be the way they are. Again, the similarities with the plan development for OJC can be said to have evolved. This lens for interpreting how the implementation plan was developed is a more accurate account of the work that was carried out, and the influences that shaped its disruptive evolution. The ecological systems thinking perspective also accounts for the complexity that was discovered and sits nicely along with this description of the work that was done by the team.
In order to maintain the integrity of the findings and also make them useful for the reader, they will be presented in three sections. The first section is in a series of figures that best illustrate the complex evolution of the implementation plan. Figures one to four use the metaphor of a New Zealand native, the horoeka/lancewood tree in order to visually represent the disruptive use of transdisciplinary processes in the evolution of the school. The horoeka tree icon was used specifically in order to highlight the metamorphosis of the ILE elements and ecological system. The tree goes through a complete metamorphosis as it matures. It looks completely different during each stage of its development. Similarly, there are three competing theories as to why this may be. Each theory proposes a different driver or evolutionary process as the key factor in the trees development and stage. This complexity has been selected to best reflect the emergent qualities associated with the principles, drivers, processes, ILE elements, and outcomes identified in this study.

The second section will present the findings in table format. This will lay out the closest synergies between the drivers, processes, elements of the ILE and outcomes included in the implementation plan. The intention for presenting the findings in this way is to put forward a manageable framework for other practitioners undertaking similar work. The nature of localising schools and ILEs means that the ILE elements for each school community will not necessarily be addressed in the same way. Other communities may identify different drivers, and employ other processes in order to achieve specific outcomes that OJC did not. By presenting the findings in a table, practitioners looking for insights they can incorporate into their own approach can more easily interpret the areas of interest to them and their community. The table is presented as secondary to initial figure set in order to ensure that the complex nature of viewing an ILE school from an ecological systems thinking perspective was
the primary lens for the presentation of the findings. However, its complexity had the potential to render the findings as a whole of no use in a practical sense, and so the table is intended to support the findings in this regard.

Finally, the third section will present the narrative of how the school navigated the implementation planning process. This section will tell the story of how the school went about working through the drivers and processes it selected, and tell the human story behind the technical elements. It will also begin to reveal a reflective approach to the different elements involved, and reveal the different intersections between principles, drivers, and processes, as well as some of the constraints and other considerations that occurred during their use. The philosophical lens of adopting the ecological systems thinking approach means that the nature of complexity and emergence in particular needed to be addressed. *Emergence* from a systems thinking perspective is a type of phenomenon that acknowledges that interactions between smaller elements of a system (in the context of this study this includes but is not limited to the drivers, processes, ILE elements, and individuals and groups involved) results in larger entities which may exhibit new properties as a result of these interactions that did not exist before. The narrative section of the findings are intended to better reflect these interactions and the nature of the total complex system and also reflects the human elements involved in the story of OJC.

The last component of the findings to note is that they are offered in a multi-media approach. Figures one to five and Tables four to six include embedded hyperlinks to a website which contains the narrative elements. Again, this is to ensure the findings more accurately reflect their complex and connected nature, but more importantly, this is to make the findings more user friendly for any practitioners who are interested in investigating specific aspects of the
research without having to read through the entirety of the presentation for the data they require.
Table Series Illustrating Relationship Between Key Drivers, Processes, and Outcomes

Table 4

Drivers and Processes related to the Relational Elements and Outcomes in OJC’s ILE Implementation Plan

<table>
<thead>
<tr>
<th>Driver Theme</th>
<th>Driver</th>
<th>Features of Driver</th>
<th>The Team’s Justification for Inclusion as a Driver</th>
<th>How the Driver Influenced the Processes Used</th>
<th>ILE Learning Element Alignment</th>
<th>Process most connected to this feature of the Plan</th>
<th>Key Outcomes and Features of this area of the Plan</th>
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<tr>
<td>Restorative Practice</td>
<td>Restorative Practice in education: Research and Practices, in particular Margaret Thorsburne’s model for Restorative Practice</td>
<td>The concept of restorative practice has been an implant part of work in education, and is the stated MOE model for one of their largest prosocial behavioral interventions; PB4L. While this particular programme was not adopted by the team, a major focusing inquiry on what restorative practice might look like in OJC as a culture, ongoing process and learning was undertaken by the team. The key features include: harmony, conflict resolution and relationship development skills, communication skills, self-awareness, and mindfulness for restoration.</td>
<td>The culture of a school is largely dependent on the nature of the interactions within the learning community. Ensuring that these prosocial and positive relational strategies were embedded in the processes from the beginning was considered a high priority. The nature of restorative practice also means that this driver was identified as needing to be embedded in the learning community and developed from all angles of the planning and nurtured over time.</td>
<td>While this driver influenced the plan from its early stages, it was not a part of the whole team approach to planning. Time constraints and the need to prioritise meant that the initial look into restorative practice was delegated to a middle leader, and was then launched in the learning phase of collaborative inquiry for all staff. Concrete operational plans for how this would look in the school would only be developed after the initial implementation of staff learning and development was rolled out when the school became operational.</td>
<td>The professional learning and development of staff</td>
<td>Spirals of Inquiry, Visioning and the Whakawhanaungatanga principles and internal processes contributed the most to how professional learning and development of staff throughout the ongoing inquiry and collaborative process was planned for.</td>
<td>An approach to developing a “knowledge network” ethos amongst staff and appreciating and leveraging the knowledge network/s of staff where all staff are able to be used to share, critique and teach/coach one another. The identification and co-construction of key areas where learning was needed: Collaborative Practice, (T)AIP learning practices, Restorative Practice, Positive Psychology and Neuroscience of young teen development in relation to learning. Selected mandatory readings which became part of the ImP for induction processes and activities for current and future staff</td>
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<td>Contemporary Research in Learning &amp; Pedagogy</td>
<td>Recent findings in neuroscience and developmental psychology and physiology in early teens</td>
<td>The team worked with influence from neuroscience educator Nathan Wallis, The New Zealand Mental Health Foundation’s Mindful Aotearoa program, and Claxton, Dweck, and other contemporary educationally relevant psychology research - in particular positive psychology and its impact on learning and learner outcomes. Key features included approaches to mindfulness, the physiology of the early teen brain, and positive learning psychology practices for the classroom.</td>
<td>It is widely acknowledged within both the education and psychology sectors that the last decade has seen an exponential growth in the research outputs which have direct implications for how teaching and learning happen in the classroom. The team felt that it was important to be familiar with this thinking, and how it would influence their planning and practices that would be incorporated or allowed for in the plan.</td>
<td>This driver had key influence on the types of PL the team undertook. It also had significant impacts on the process content that led to the development of the processes and the provisioning of the relational elements most closely connected to: The overall use of teacher/facilitator resources (including team and individual teaching) The role and skill set of the Teacher/Facilitator The role, expectations and development of the learners</td>
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<td>Values &amp; Community Narrative Building</td>
<td>The need to develop a localised approach to community consultation, voice and participation</td>
<td>Flat Bush is a relatively new community. The oldest school in the area is only 14 years old, and in the Ormiston area of Flat Bush, much of OJC’s school zone is made up of land zoned for development, or brand new housing. This means that the community is still developing and at a rapid pace, and is still growing its identity and voice. Community consultation is an industry standard and research based activity that all schools undertake and an accepted part of operations and best practice. The need to work out what this new community’s preferences were in consultation and</td>
<td>All schools are responsible for interacting, consulting and inviting participation from their community. This is part of the internal and external review processes in the regular scope of operations for all New Zealand Schools. However, how well a school does this, and how well the community feels this work has been done and fits their needs is variable, and the team felt that it was important to keep this in mind and incorporated processes that best fit the community.</td>
<td>This driver is connected directly to the used of the VMOSA model for community consultation. It also meant that this relational element work was closely connected to the neighboring feeder primary school’s work in this area over the previous 3 years.</td>
<td>The principles and processes connected with whakawhanaungatanga were most closely connected with this element at every step. A focus on inclusive actions, responsiveness and adaptation, and making long term mutually agreeable connections were the focus of these processes. Additionally, the VMOSA model for community consultation was also most closely connected with community consultation practices, planning and tracking.</td>
<td>The approach to developing communication and consultation in the stakeholder community was very much based on the principles of whakawhanaungatanga and how to find out which methods of communication, and what was most relevant to our community. The outcomes of this part of the plan were to use a mixture of digital social media, surveys and questionnaires, and many organised, yet informal, face to face opportunities to create dialogue around what stakeholders felt was important as well as to open the floor to questions in order to observe trends and areas of importance for our community. The VMOSA method was used for the early planning and tracking of community engagement and helped to formulate a structured approach to consultation and participation in the early parts of the plan.</td>
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<td>participation processes was an area of significant importance.</td>
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<td>This relational element was also not as tightly connected with distinct use of particular processes. The principles of whakawhanaungatanga and the connection to developing these links to other environments/schools/communities was also tightly connected to multiple parts of the spirals of inquiry and collaborative processes that were undertaken throughout planning by the team.</td>
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<tr>
<td>ERO Indicators</td>
<td>ERO: new indicators for successful schools</td>
<td>In 2016, ERO released the draft, and then final revisions for the school review indicators. These indicators for processes in particular were posted in the workroom during the planning process. These are as follows: Domain 1: Stewardship Domain 2: Leadership for equity and excellence Domain 3: Educationally powerful connections and relationships Domain 4: Responsive curriculum, effective teaching and opportunity to learn Domain 5: Professional capability and collective capacity Domain 6: Evaluation, inquiry and knowledge building for improvement and innovation (ERO, 2016)</td>
<td>Aside from being the new measures on which the school would be judged, the process indicators in particular were viewed by the team as being a high quality and research based lens for maintaining high quality in the plan. In particular, the view of the team was that each of the domains should be accounted for in the key parts of the plan. Therefore, if the relational elements really were the most valued work by the team, and the parts of the plan that were viewed as integral to any future success, then the domains should also support how the relational elements were developed.</td>
<td>This driver influenced the process to the point that this language and the references used informed the lay out for the school strategic plan. The new Process Indicators would become the main heading, and all school wide ILE elements would therefore be linked and represented in planning and processes by their inclusion in the strategic plan with a focus on ensuring each domain addressed the elements sufficiently.</td>
<td>Again, the interplay between this relational element and other learning and organisational elements within the school means that it was too great to neatly attribute to just one process.</td>
<td>In many ways the HBDI process helped to identify preferences and strengths in the team which organically informed some of the collaborative processes and creation of sub-teams that would happen further down the track.</td>
<td>The roles of senior and middle leadership and the relevant structures and systems</td>
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<td>Notably, the management structures and roles were often left up to informal negotiation and management - or initiative. At times this was formalised into workflow areas of the through the use of Agile tools as well as traditional management allocations/delegations.</td>
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<td>The structures included in the plan for middle managers were the provisioning of the school with the “Designers” role and description, rather than heads of curriculum or learning areas or deans.</td>
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<td>These Designer roles are divided into three areas:</td>
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<td>Learning Designers (responsible for overseeing the learning design and (T)AIP pedagogies and practice);</td>
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<td>Kainga Designers (responsible for developing MAC skills and the Kainga Navigation Principles which drive responsive planning in the MAC and Kainga Programme);</td>
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<td>the Inclusive Learning Designer (responsible for creating and developing the school’s approach to priority learners; English language learners, special needs learners, and other high priority groups as they are identified. This includes Maori and Pasifika learners as well).</td>
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<td>Driver Theme</td>
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<tr>
<td>Contemporary Research in Learning &amp; Pedagogy &amp; Restorative Practice</td>
<td>Learning Advisory Models and Research</td>
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<td>Youth mentorship has been around since the 1980’s in New Zealand. Most mentorship initiatives are targeted at high risk communities and are delivered by external providers. However, more recently an evolution of the mentor role and how it might effectively enhance learning and learner outcomes by being incorporated into the school day and teaching role has been seen in New Zealand. In particular, American approaches by some successful charter schools are being transplanted and localised in New Zealand schools under the heading of Learning Advisory models. Key features of Advisory models include a change in the role of the teacher when acting as advisor, a much lower ratio of students to teachers in advisory groupings, scheduled 1:1 time between the advisor and advisee, and a focus on the long term relational support for the holistic development and success of each learner.</td>
<td>After visiting several schools using advisory models in both New Zealand and overseas, as well as carrying out professional reading and development on the ins and outs of implementing an advisory model, the power of localising an advisory in a new middle school was very apparent to the team. It became one of the key focus areas for development from very early on the the plan development process. The social emotional demands of learning and development in the early teens, combined with the high number of new migrant families, on top of learners adapting to the challenge of a new school and approaches to learning that their families were likely not to be familiar with, meant that having a holistic support system in the form of an advisory model was a sensible way to mitigate potential challenges for future OJC learners and their families.</td>
<td>This particular driver influenced the processes by forming a clear direction and focus area that the team and sub-teams would work through in collaborative processes, inquiry, and planning. It’s value as a practice was very closely connected to the principle of whakawhanaungatanga, and therefore its inclusion as a practice also illustrates the messiness of the school ecology. Advisory based learning arguably became a belief, value, principle, practice, driver and process.</td>
<td>Notably no discrete processes could be closely identified with determining how this relational element was incorporated into the ImP. This element falls into many categories, and so was present in such a wide variety of processes making it impossible to extrapolate a clear relation to just one or a few discrete processes. In that sense it is an excellent example of the perspective of how an educational ecology and its interconnectedness can blur lines between different areas being considered.</td>
<td>Key outcomes related to this relational element of the ImP include the use of learners in reciprocal teaching/learning practices; including running genius bars, teaching Whanau Ora classes, critiquing and assessing their peers work, and running assemblies and whole kainga activities weekly. Expectations of the learners are also included in the plan in terms of how participating and sharing work, restorative and mindful practices in conflict resolution and peer support situations, and their role in self assessing against literacy/numeracy progression elements and against Graduate Profile Badge Criteria.</td>
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<td>Hauora &amp; Contemporary Research in Learning &amp; Pedagogy</td>
<td>Hauora as an emerging educational focus to enhance and enrich learning and individual growth/development</td>
<td>Over the last decade, the understanding of how concepts of wellbeing influence learning and learner outcomes is at the forefront of educational research and policy. The MOE now recognise that learner wellbeing is necessary for success, and have incorporated the focus on “mental health, resilience, access to youth-friendly health care services” into their recommendations for schools. (MOE, 2012) Beyond the MOE, the growing research and practical focus on the school’s role in developing and supporting learner wellbeing is well documented, and ensuring schools develop explicit approaches that are community specific is a key part of this growing body of research.</td>
<td>The leadership team’s early work around visioning and whakawhanaungatanga identified hauora as an important thread and value that ran through a number of exercises, sharing, reading, and thoughts about important practices and considerations in developing the ImP for a new middle school. Developmentally, this age is also identified as vulnerable to a number of high risk factors which can positively or negatively affect a learner’s hauora, and so it was felt that including an explicit approach to hauora and developing this over time with the OJC community was crucial.</td>
<td>Hauora influenced the processes in its inclusion from very early visioning work as a value, not just a concept to be addressed. Hauora, and in particular the Te Whare Tapa Wha model was included in the school values as the driver for the other 5 values. This meant that the hauora concept would end up coming up again and again over time and incorporated into the whakawhanaungatanga processes, learning element planning, and how some of the organisational elements of the school were planned for.</td>
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<td>Community Narrative</td>
<td>Building</td>
<td>HBDI Whole Brain*Thinking is a method organisations can use to provide team members and leaders with a framework to help better understand thinking diversity in order to work towards improved outcomes. It is the foundation for the highly validated Herrmann Brain Dominance Instrument®(HBDI®), which measures thinking preferences of individuals, teams, and organisations.</td>
<td>The LoI had been a certified facilitator of the HBDI tool and had used it with past schools in a leadership role, as well as in a consultant capacity. Atkins (whose work was pivotal in the Visioning Principles and Processes) is also a whole brain thinking advocate. The LoI’s justification for the HBDI framework in the development of the plan and culture centered on; “Improved communication, problem-solving, and decision-making.” “Elevated performance and employee engagement. Increased thinking agility and diversity within your organisation.” “Understanding and building the team in balance of preferences and developing self and team awareness.”</td>
<td>The HBDI profiling method and framework includes strategies and applied skills to Overcome silo mentalities and organizational inconsistencies; Save time by using a shorthand to describe and address situations and issues; Run more efficient meetings while increasing participation, ideas and outcomes; Take full advantage of their collective intelligence; Improve communication on teams and increase performance; Generate and synthesize new ideas while having the plan and process in place to fully execute them; Manage projects more effectively; Solve problems faster and more thoroughly; Eliminate the frustrations and miscommunications that slow down progress and get in the way of results; Improve efficiency and motivation by delegating and assigning work based on the mental demands of the</td>
<td>The overall use of teacher/facilitator resources (including team and individual teaching)</td>
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<td>job and the thinking resources available; Understand what motivates different people and coach more effectively; Recognize and take into account the energy required when the person will have to stretch mentally to get the work done; Provide productivity tools and job aids that will help, not add to the distractions; Assemble and manage highly creative, productive and energized teams. (© 1981-2015 Herrmann Global)</td>
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<td>Values &amp; Community Narrative Building</td>
<td>Valuing and Honouring the development of a cultural narrative and relationship with Tangata Whenua; Ngai Tai</td>
<td>The MOE approach to working collaboratively with iwi to establish cultural narratives and connections between the re-built schools post-earthquake, was modeled on a variety of existing case studies of existing strong relationships - particularly in rural New Zealand schools, and the potential to better embed the principles of Te Tiriti o Waitangi into the life of schools. While this has been an MOE government funded focus in post-quake Christchurch, this is not the case in other schools around the country. While OJC was not able to secure a fully funded approach to developing a cultural narrative approach and documentation for the school, the team took the core components of this concept, and worked to develop it with the tangata whenua, Ngai Tai. Key features of this were: developing a working relationships and ethos by looking for opportunities to collaborate with Ngai Tai, ensuring foundation and new staff would receive professional development of the Ngai Tai kaupapa, to incorporate Ngai Tai</td>
<td>Flat Bush is perceived as a new area - New Zealand’s fastest growing and largest urban development. Before the Flat Bush town was a proposal, the area was farmland, and many of the names associated with European settlers and farmers are predominant in the area. However, before the colonisation of the Flat Bush area, some of New Zealand’s first inhabitants and their history forms a crucial part of the history of the area. This history and whakapapa are not well reflected in the new community yet. The leadership team felt it was important to acknowledge the stories of those who are the tangata whenua of this area, and work to develop relationships and partners that supported the local iwi in ways they saw fit and appropriate in their mission and work. While the focus on this relationship is long term partnerships, in the shorter term, there were also s goals around the accurate representation of the area’s history embedded into the naming of areas in the building, and the use of pou and Maori stone that was beneath the building site and in the area as touchstone to the a living history, and to the kaupapa of Ngai Tai in the physical and spiritual</td>
<td>This driver influenced the process selection in ensuring there was authenticity, reciprocity, and accurate kaupapa for our whakawhanaungatanga with Ngai Tai, rather than the leadership or wider team adopting any kaupapa, academic or, other approaches to developing the whanaungatanga with the iwi, and how we would begin to collaborate over time.</td>
<td>Key personnel and relational elements seen as valuable to the school. (Cultural Narrative and relationship with Ngai Tai)</td>
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<td>kaupapa and history as approved by the iwi representatives into the physical history of the building through the naming of spaces in Te Reo after early navigational tools and tupuna names, inclusion of pou, and the stories that are told, and the ways they are told and passed on to the learners and staff that come through the building, and contribute to local iwi initiatives in education and conservation.</td>
<td>dimensions of the building.</td>
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Table 4
Table 5

Drivers and Processes related to the Learning Elements and Outcomes in OJC’s ILE Implementation Plan

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<tr>
<td>EBoT’s Vision &amp; Policy</td>
<td>EBoT’s ethos and direction setting - policy sitting alongside the Vision Statement</td>
<td>The most influential direction setting by the board was the development of the school’s vision statement: “Guarantee every learner engages in innovative, personalised, world class learning.” This phrase set the tone and direction for all inquiry and collaborative processes involved in addressing the learning elements. The semantics of innovative and personalised and how they relate to the learning that would be planned for OJC were crucial in what types of pedagogies and practices were investigated by the team. The EBoT also very clearly set out the legally, the team was obliged to follow this direction setting by the board as set out in the OJC governance policy, NAG’s, and supporting policy documents.</td>
<td>This driver influenced the process selection by ensuring that the team was using every possible opportunity to discover and understand what personalised and innovative world class learning might look like, and how a school might go about guarantee learners engage with this learning. It also empowered the team to explore and plan with the support of the board, knowing that they were taking the position of ensuring high quality teaching and learning systems and plans, while being accountable to a well informed and transparent governing body.</td>
<td>Influenced all Learning Elements (as identified through remainder of this table)</td>
<td>Collaborative Processes - and the ongoing spirals of Inquiry</td>
<td>The layout and structure of the strategic plan for 2017 was the most direct outcome of this driver and process. Also, the focus areas for the spirals of inquiry around curriculum and learning were heavily influenced by the team’s interpretation of this driver.</td>
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<td><strong>Principles &amp; Practices of the Community of Practice</strong></td>
<td>Influence of the community of practice, specifically the practices and principles of the neighbouring schools</td>
<td>There are two distinct features associated with the neighbouring Primary and first Feeder school to OJC. The first is that these school share a board and vision statement. This similarly influenced their approach to learning and other ILE elements. The second feature stems from the primary school functioning as the only feeder school for the OJC’s first two years of operation, the language, platforms, and organisational elements that they used strongly influenced the OJC</td>
<td>The team believed that one of OJC’s core functions was to build on the success of the primary school and prepare them for the nuances of the community senior college. For OJC to fly in the face of the realities of transitioning between schools, and completely depart to pursue its own prerogatives was seen as being irresponsible to the future learners that would receive their education in this community. Therefore, incorporating key elements of the feeder and transition schools’ approaches and organisation that fit with the needs of</td>
<td>This driver did not influence the selection of processes per se. However, it played a key role in informing stages of the process and what research and experiences were included during the planning for the learning elements. In particular, because there were no learners at OJC to collect data and voice from an ongoing way to refine the plans, learners and staff were often consulted or visited from both schools (as well as a third nearby primary) to help inform the iterations and the team’s understanding of how plans might play out in</td>
<td>Influenced all Learning Elements (as identified through remainder of this table)</td>
<td>The Outcomes connected to use of time and space, as well as groupings of learners were the outcomes most closely connected with this driver. For example, the OJC timetable includes two particular blocks that are re-iterations of two of the feeder school’s time allocations with adjustments for different developmental and curriculum needs. Similarly, there are two time allocations that resemble the local senior College’s time allocations and purposes, again with developmental and curriculum needs.</td>
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<td>Contemporary research into success factors in learning</td>
<td>Positive Psychology, mindset, character, science of happiness</td>
<td>Soft or life skills, dispositional development, and character growth have been around in education for a long time. However, recent disruptive research on success factors in life, the science of happiness, and how our perceptions of ourselves and ability to develop ourselves has influenced education again. In particular, how we address these things in school is once more at the forefront.</td>
<td>This driver influenced the process from content and professional development standpoint. It was included in the research phase of inquiry, and became a pivotal quality control and value in the collaborative process used to determine how and where it might fit best with the other learning and organisational elements.</td>
<td>This driver influenced the</td>
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<td>Adjustments for the middle school. This helped to ensure OJC was not a lone wolf, but was fulfilling its role in bridging the gap between primary and high school.</td>
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**The Team's Justification for Inclusion as a Driver**
- Middle school learners and the OJC values and beliefs, was a high priority for the team.

**How the Driver Influenced the Processes Used**
- Practice.

**ILE Learning Element Alignment**

**Process most connected to this feature of the Plan**

**Key Outcomes and Features of this area of the Plan**

- Atkin’s Collective Inquiry and Visioning Strategies led the whole team to the conclusion that a daily approach to Hauora and all elements of Te Whare Tapa Wha was in the best interest of future OJC learners.
- This notion was then passed on to undergo development in a collaborative process in which an Elite Team (see below) engaged with some outsiders to develop this part of the Imp.

- A key element of organising the intended learning was the inclusion of Whanau Ora - a 45 minute session run everyday in roughly the middle of the day. Whanau Ora (or Family Health) was designed around the developmental and neurological implications of regular vigorous movement on the early teen brain and learning.
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<td>Contemporary Research in Learning &amp; Pedagogy</td>
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<td>of education planning and discussions, but this time, with formal research to back up its worth. This meant that the team felt it was important to focus heavily on these implications for the learning and curriculum at OJC.</td>
<td></td>
<td>The organisation of the intended curriculum</td>
<td>There were also elements of Consortium (see below) involved in this part of the ImP as a few members of staff worked with expert outsiders to begin to develop an OJC approach to a Mindfulness Component of the day and curriculum.</td>
<td>Two of the most noted outcomes arising from this are the cyclical nature of learning and sharing learning embedded in the ImP. This includes a regular quarterly cycle of Public Expo of Learning (In which the school is open to the community and invited guests, neighbouring learners and schools) at the end of each term in order for learners to seek feedback and feedforward from a wider audience. The other outcome associated with this work was the development of Conference Week at the end of each term in order to address wider breadth opportunities for learners and allow time and space for</td>
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| Emerging Research and Practices in Digital Badging, Gamification and Assessment - in particular narrative and ipsitive assessment practices and concepts of developing a Graduate Profile | Digital Badging, Gamification, and Assessment are three very distinct areas of research - both within Education, as well as a variety of other disciplines. However, the intersection of how these concepts might play out in a surprisingly natural way, and be incorporated into practices in a middle school were a focus for the team. Gamification of learning, and in particular the LRNG digital badging, initiative heavily influenced the principles of how to develop an OJC plan for personalised assessment practices based on research, and the creation of the plan for narrative assessment against the OJC graduate profile. | The team that worked assessment at OJC focused on incorporating the principles of gamification into their approach to digitally badging the OJC graduate profile. The justification was that the motivation and depth of learning research that both narrative assessment and gamification principles promote was a fusion opportunity that, once explored further, seemed too grounded in extensive research from both sides to not attempt to merge. The collective inquiry into these four components and their synergies informed how the work was done on prototyping the plan for digital badging as narrative assessment at OJC. | This driver influenced the processes used because the lack of existing approaches that merged these ideas - particularly in NZ in 2016. This meant that creating multiple iterations, and pitching to a wide audience would become crucial for making this as good as possible before it would be implemented. This meant sharing with gaming experts, assessment experts from other schools, discussing with other groups and classes using different approaches to gamification and/or digital badging. This need influenced the process deeply because of the importance of being purposeful with visitors or outside educators whose time and expertise we were requesting as part of | The assessment pedagogies and methods | Collaborative Processes: Consortium A variety of experts were called in and consulted in order to support crafting these principles into a workable first iteration in the opening year implementation plan. | The approach to this aspect of the ImP focused on developing the following:  
- Regular and routine (term based) standardised testing to meet MOE obligations and ensure quality control in relation to the rest of New Zealand;  
- Multi-Media narrative assessment that included milestone checkpoints, self, peer and teacher assessed elements;  
- Digital Badging and collective bidding for badges and ‘leveling up’ to reflect the graduate profile and areas assessed from the New Zealand curriculum. |
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<td>Emergence of Transdisciplinary, Authentic, Inquiry, and Project Based Learning</td>
<td>Seeking out accurate and descriptive definitions of practices and contemporary pedagogies</td>
<td>The team identified connected, active and constructivist pedagogies and practices as being central to meeting the demands of the vision statement. After exploring how these might play out in different scenarios, and becoming more familiar with recent research into learner motivation, agency, and enhanced outcomes as well as targeting developing future ready citizens, decisions were made. Transdisciplinary, authentic, inquiry and project based learning were the approaches that met the goals and research and hence were selected by the leadership team, and enhanced by the foundation team.</td>
<td>Learning approaches and philosophies that were identified as best fitting the ethos of OJC were included in a living document glossary to help anchor further planning in shared understandings. This driver became the force behind how a programme of learning and planning for learner outcomes would be created. It informed how the four terms would be incorporated into the school's planned approach to curriculum and delivery and any other ILE elements that would support this.</td>
<td>The development of learners' knowledge and understanding, skills, attitudes and dispositions</td>
<td>Atkin’s Collective Inquiry and Visioning Strategies Collaborative Process: Innovation Community</td>
<td>Transdisciplinary Authentic Inquiry Projects [(T)AIP]: This became the name of one large timetabled part of the planned curriculum at OJC.</td>
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| Key Readings and Research | The Nature of Learning: Principles of Learning, Key Comps 4 Future, and The NZC - vision, values, principles, and essence statements and pedagogies pages. | The inclusion of all elements of the NZC is a non-negotiable MOE requirement for a state school. The NOLA paper and Key Competencies for the Future - a research project completed by NZCER - | These documents influenced every part of the processes and planning for learning elements at OJC. They were used as touchstones in the collaborative and inquiry processes to | The development of learners' knowledge and understanding, skills, attitudes and dispositions | Collaborative Processes: MAC development began with the Elite Circle Approach - the Lol Team, and was then shifted to an Innovation Community, and finally back to an Elite Team/Innovation Mall | Mentor, Advisor, Coach Time and Groups (MAC) and Whanau Ora time: This part of the curriculum was planned to address specifically the metacognitive development, hauora,
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<td>Metacognitive Principles &amp; Practices</td>
<td>The notion of how a learning design or inquiry process as school model and metacognitive tool influences learning</td>
<td>Metacognitive tools are devices, pieces of equipment or strategies that are designed to support knowledge and regulation of cognition. Since</td>
<td>The justification for this idea as a driver centers on the team’s unwillingness to narrow the learners’ experiences of learning and thinking to just one model of inquiry. There</td>
<td>The intended pedagogies and theories and The intended teaching and learning practices and their intended outcomes and The values and principles of learning</td>
<td>Atkin’s Collective Inquiry and Visioning Strategies</td>
<td>The key outcomes arising from this were the approaches developed for Literacy and Numeracy LABS, Coaching and Floor time in all areas, MAC approaches and responsibilities, the Kainga Principles of Navigation, and the development of the OJC “We Believes”.</td>
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2000, many schools have adopted inquiry models to support teacher and learner understanding of how a particular tool scaffolds inquiry learning so that learners can continue to develop proficiency with a particular model. Learning design arguably takes this to its next iteration and supposes that there are metacognitive processes that are unique to different disciplines, spaces or communities, but that have some unifying components. By using language (the metacognitive approach or hook in this case) to illustrate the similarities that different subject areas, disciplines, and sectors use to explore and express ideas, this driver is about the search to ensure the rigors of different ways of thinking are maintained, but that they are also connected to other learning designs that

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<td>2000, many schools have adopted inquiry models to support teacher and learner understanding of how a particular tool scaffolds inquiry learning so that learners can continue to develop proficiency with a particular model. Learning design arguably takes this to its next iteration and supposes that there are metacognitive processes that are unique to different disciplines, spaces or communities, but that have some unifying components. By using language (the metacognitive approach or hook in this case) to illustrate the similarities that different subject areas, disciplines, and sectors use to explore and express ideas, this driver is about the search to ensure the rigors of different ways of thinking are maintained, but that they are also connected to other learning designs that</td>
<td>was a fear that by incorporating inquiry learning into the school’s ethos and practices, that the nuances of different subjects and disciplines may be lost. Conversely, there was an additional disquiet about learners moving from inquiry to inquiry and feeling like they were constantly faced with something completely new - a brand new and unfamiliar thinking model that would be needed for each new inquiry - and that this would be daunting and overwhelming. Therefore, incorporating a form of learning design that used principles of metacognitive tools for retrieval and application across subjects and disciplines became a driver. This driver also needed to acknowledge that there are specific terms, strategies and processes involved in each different community of practice that should be present in an inquiry to facilitate accurate and</td>
<td>plays out in the processes used to work through planning. Metacognition as something that should be addressed explicitly for future learners, meant that a collaborative process would be crucial in terms of how the learning coaches and leadership would be able to find common ground and acknowledge idiosyncrasies, both of themselves as practitioners and as experts in specific areas of the curriculum.</td>
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| Contemporary Research in Learning & Pedagogy | The Nature of Learning | - The 7 Principles of Learning  
- The Gatekeepers of Learning (Emotion and the 8 Basics of Motivation)  
- How people learn  
- The Nature of Adaptive Expertise (OECD, 2010) | The NOLA paper and book have been arguably one of the most influential educational research projects of this century. In particular this work’s connection with the OECD ILE project and its implications for how all elements are considered within a learning community meant that this work was pivotal in terms of how the team ensured the elements were planned for and incorporated into the | The Nature of Learning Paper has very close ties to the use of spirals of inquiry for school improvement which became embedded in the school’s principles for working. All Collaborative Processes and focus on collaborative sense-making which were used and identified are deeply connected to how this particular piece of research influenced the learning and organisational elements. This connection is elaborated on | All organizational Elements (see below or in Narrative Vignette) | Collaborative Processes | The overall OJC approach to curriculum and its delivery and the development of the OJC We Believes and Values. |
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| Transdisciplinary and Cross Sector Skills & Knowledge | Time as Capital and the TARDIS Philosophy (Time and Relative Dimension in Space) | - All decisions relating to time or space allocation were first put through a values test and also developmentally sound pedagogy (for example the impact of time and scheduling on the morning motivation in young tweens and teens, or the impact of physical exercise at different times of the day/etc)  
- Time and Space allocations were then apportioned based on their unique values propositions.  
- Changes were made as needed in accordance with leveraging spaces, human organisational elements as enablers of these pedagogies and practices. | The experiences of the leadership team, including those from our previous schools, our shared travel and school visits around New Zealand and overseas, all led the team to the observation that often time and physical resources and layout seem to be one of the early decisions made by other groups in similar situations. This seemed to lead to a lot of tweaking or forced decision making over time about other learning or relational elements that other groups had to make in order to fit the learning and relationships in with their already determined organisational decisions. It seemed to the leadership team, that if we had to categorise “time” in our implementation plan and all the things associated with it (staffing, timetables, resource acquisition, management structures, etc) | Using this philosophical approach to how the resources were allocated and matched with values propositions meant that the principles and values agreed upon by the team were the drivers for how the organisation of the resourcing happened - rather than the other way around - the tail wagging the dog so to speak. It also meant that because resourcing allocations was values based, the process of “learn and refine” best suited the approach to different iterations as there was a foundation for making decisions, rather than responding ad hoc to various pain points as they developed. | The use of time and sequencing of activities over time, and  
The physical set-up of the ILE and locations of learning with their respective rationales, and  
The mixes of groupings in different activities or at different times including the size of groupings. | LEAN’ing in through Design Thinking | The cyclical and yet responsive and adaptive approach to the TARDIS throughout the day and the term, the ongoing iterative processes used to define spaces flexible and purposefully, and the responsive iterative approach to ongoing groupings. |
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<td>resources and materials as needed in relation to their value as assets, and time as capital expenditure in order to best align this use of resources and expenditure with the values and teaching practices the team wanted to embed.</td>
<td>furniture arrangement, etc), t we had better be very clear on what we wanted to “spend” on each of these items. It also became apparent very quickly, that without good immersive collaborative inquiry into how time should be “spent”, we would very quickly paint ourselves into a corner and that time expenditure would end up dictating what staff we would need, and how much “value” we gave each area of our curriculum. This was a situation we actively worked to avoid.</td>
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<td>● Using the TARDIS mentality to time and space allocation meant that their relationship with one another and how both resources were used, could be more fluid in taking into account what resources were needed, by whom, when, and for what purpose. This helped the team to avoid default thinking</td>
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● A body of research on Mentoring, Advising, and Coaching (Youth mentorship New Zealand, advisory in Big Picture Schools, Coaching as Pedagogy)  
● Social, Emotional Learning and the Developmental needs of tweens and early teens | New Zealand educational research relevant to the needs of our community and learners and experience in practice of the impact of the Tuakana/Teina approach positively impacting learners, school culture, and learning outcomes meant that this approach to groupings in a variety of settings for a variety of purposes was a key focus for the team to build into the organisational elements in the plan. | This driver heavily influenced the direction of several spirals of inquiry that were carried out by collaborative teams. | The mixes of groupings in different activities or at different times including the size of groupings and  
The composition of groupings (gender, age, race, abilities, personalities, socio-economic background/s) | Elite Team Collaborative Processes were most closely connected to this driver. Overtime, Innovation Communities would begin to continue to develop this approach. | The OJC approach to Learning Advisory, called MAC (Mentor, Advisor, Coach) and the role of the Kainga - a sort of house or whanau system centered around the hauora and metacognitive development of the learners is the direct result of this driver and process group. |
<p>| The Substitution, Augmentation                     | The most lasting and mentioned use                                     | It was important to the team that the                                               | This driver influenced the choice of technology (ipad) | The use of technology to                                                             |                                 |                                                 | The selection of the devices for the school       |</p>
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<th>Driver Themes</th>
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<th>Features of Driver</th>
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<td>Modification and Redefinition (SAMR) and Technological Pedagogical Content Knowledge (Tpack) approach to thinking about tech integration</td>
<td>Of this thinking as a driver was seen in the team’s articulated emphasis on technology being implemented to transform the learning.</td>
<td>School's approach to technology was not just about substitution or augmentation, but that tech at OJC should always aspire to be transformational and redefine how learning happens or the outputs of learning.</td>
<td>And the network and staffing support needed to make this a viable option for the school. Staffing and professional learning resources were also heavily allocated to support this.</td>
<td>Support, enhance or transform the learning.</td>
<td>(ipads) was influenced the most by this driver. In turn, the Consortium Collaboration with Apple™, professional development of staff, and how the use of this tech would be supported by a relevant platform were the main outcomes of this driver and processes.</td>
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<td>Contemporary Research in Learning &amp; Pedagogy &amp; Transdisciplinary and Cross Sector Skills &amp; Knowledge</td>
<td>Space as the Third Teacher And The emerging concept/theory of Embodied Cognition And Contemporary approaches and thinking about Design for Learning Spaces</td>
<td>Access to appropriate and relevant materials and work spaces, using the physical space and environment as provocation and learning resource or anchors.</td>
<td>Orr’s approach to incorporating Reggio Emelia Concepts across educational sectors to enhance learning, as well Malaguzzi’s focus on ways of working with children and the environment in order to enhance and provoke transformational inquiry learning fit well with the team’s articulated principles for the relational and learning elements of the ILE.</td>
<td>The concept of space as a third teacher and how it would be incorporated into the planning process meant that an iterative and kinesthetic process would be the best fit. The aim for the team was to work in a way that matched this theory and so using Design Thinking processes was deemed to be the best fit.</td>
<td>The physical set-up of the ILE and locations of learning with their respective rationales And The design and intended use of the physical environment in light of learning aims and needs of target groups</td>
<td>Design Thinking was used very closely in connection with this driver group.</td>
<td>The initial plan for both how to use the physical spaces and materials in the school, and how these would be open to reiteration and responsive work after becoming operational.</td>
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This emerging theory focuses on how the physical/visual environment and entire body experience of the human affects our...
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<td>behavioural patterns and cognitive processing, development and perceptive experience.</td>
<td>factors which influence learning behaviours from the simplest of transition times and flow, to ease and willingness of children to independently access learning materials, to how teachers collaborate and work together. The Embodied Cognition Theory offers perspective on how this may be planned for intentionally within the ILE to enhance learning.</td>
<td>would best reflect the possible ramifications of this on the planning. For example, gathering samples of furniture, using taped of areas, moving the workspace around regularly to bring attention to how these changes influenced the team’s behaviours and thinking.</td>
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<td>Featherston sums up the multiple perspectives the team drew upon as the key considerations for modern learning environments in the following:</td>
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<td>communal environment – a unified, shared space to support and reflect a democratic community of learners– children and adults</td>
<td>The physical provisioning of the school building and materials, as well as the MOE’s unofficial mandate on resourcing and working towards innovative and localised approaches to learning and resourcing meant that developing expertise in contemporary theory and research on how design can support learning was imperative to the success of the implementation planning.</td>
<td>Many of the contemporary research the team based their work on referenced different models of the Design Process, and Design Thinking with a special emphasis placed on both the participatory/consultation phases, and the iterative refining stages. This pointed to a continued natural fit to using both Design Thinking and Design Process for the team’s work.</td>
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<td>and learning</td>
<td>a purposeful environment – rich, complex settings that provide cues for use</td>
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<td>experiences – diversity is more useful than flexibility.</td>
<td>a respectful environment – acknowledging children as capable, competent and curious – each with unique life experiences</td>
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<td></td>
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<td>an autonomous</td>
<td>an autonomous environment – design to enable children to self-manage and negotiate their curriculum</td>
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<td>environment – an</td>
<td>a playful environment – an appropriate ambience which recognises children’s priorities for play and friendships</td>
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<td>environment –</td>
<td>an aesthetic environment – children deserve harmony, beauty and a high quality environment</td>
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<td>aspects are...</td>
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<td>Values &amp; Community Narrative Building</td>
<td>Honouring the existing cultural narrative</td>
<td>a realistic environment – modest design, utilising the potential of the existing building</td>
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<td>The school has a cultural narrative woven into the visual and written fabric of its history thanks to this work. The space names acknowledge Ngai Tai Tupuna and turangawaewae. Other spaces in the school celebrate the history of the Polynesian navigations and are named after these elements. After much</td>
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<td>Features of Driver</td>
<td>The Team’s Justification for Inclusion as a Driver</td>
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<td>each school or upgrade is situated.</td>
<td>tangata whenua and honour the history and cultural narrative of the local area of the school. This element of localisation was non-negotiable for the team.</td>
<td>This work is an example of the ecological interplay between whakawhanaungatanga as both principle and process</td>
<td>and future of the area and its people.</td>
<td>consultation, these elements were chosen to represent the history of the area and its people, as well as its present as a home for newly arrived migrants who have navigated their way to Flat Bush from all around the world</td>
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*Table 6*
Figure Series Illustrating Ecology of Implementation Planning

Figure 1

Legend for the Horoeka Figure Series

LEGEND

- Indicates Iterative Nature and interconnectedness of all other components
- Indicates an Outcome
- Indicates a Process
- Indicates a Driver
- Indicates a Principle
- Indicates an Elemental Overview of the ILE (Relational, Learning, Organisational)
- Indicates the nature of the Principles and their ongoing impact throughout all Drivers, Processes, Element Components, and Outcomes
Figure 2

Horoeka Metaphor for the Overall Ecology of OJC’s Innovative Learning Environment Development
Figure 3
Horoeka Metaphor for the Relational Elements and Ecology of OJC’s Innovative Learning Environment Development
Figure 4
Horoeka Metaphor for the Learning Elements and Ecology of OJC’s Innovative Learning Environment Development
Figure 5
Horoeka Metaphor for the Organisational Elements and Ecology of OJC’s Innovative Learning Environment Development
Narrative Vignettes

The Beginning: Developing Principles for how the Team Would Work

Exploring the processes used for the development of the implementation plan for Ormiston Junior College (OJC) goes back to “the beginning of the beginning”, those very early days for determining drivers and processes before embarking on the actual journey of founding a new school. It is the time when the groundwork is laid for all subsequent actions. This groundwork leads to the principles that determine all critical foundational steps and guide all other processes from then on. The drivers and processes used in the early phases of developing the school’s plan are heavily interconnected with one another as well as with the discrete drivers and processes in each element of the Innovative Learning Environment (ILE).

Ministry of Education Mandates for OJC

New schools in New Zealand are mandated by the Ministry of Education (MOE) to meet certain quality control measures, policies, and protocols. These include compliance and consultation measures, and the NEGS and NAGs. The NEGs and NAGs form the basis for the legal and professional obligations of all New Zealand schools.

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4 The National Education Guidelines are made up of 5 components: National Education Goals, foundation curriculum policy statements, national curriculum statements, National Standards and National Administration Guidelines (NAGs)

5 The National Education Guidelines are defined by Sections 60A of the Education Act 1989 National Education Guidelines given effect by 3 parts of the Education Act

- section 61 (2) which states:
  1. The purpose of a school charter is to establish the mission, aims, objectives, directions, and targets of the Board that will give effect to the Government's national education guidelines and the Board's priorities.
- section 61 (4) (b):
  2. A school charter must include the Board's aims, objectives, directions, priorities, and targets in the following categories:
The Education Review Office (ERO) reviews and ensures schools meet their legal and ethical obligations. These include everything from teaching, learning, policy, systems and procedures, human resources, assessment and reporting, community consultation, priority and at risk learners, finance, health and wellbeing among the many aspects under scrutiny. In 2016/17, the ERO protocol and procedures for redevelopment and consultation were undergoing a review process. The review principles ERO employs were major drivers in how OJC developed its implementation plan and selected the processes the team would use to do this.

The Role of Governance

The first phase of new school development is handed from the MOE to the community in question. In New Zealand, this is done through the appointment of the Establishment Board of Trustees. (EBoT). The OJC board was responsible for setting policy, hiring the leadership team, setting a management structure, and providing the ongoing governance of the project. The OJC board worked with the underlying principles of school governance outlined by the New Zealand School Trustees Association (NZSTA). In addition, the EBoT had the responsibility for setting the

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6 The National Administration Guidelines for school administration set out statements of desirable principles of conduct or administration for specified personnel or bodies. For detailed explanation of the NAG’s and each school’s responsibility see https://education.govt.nz/ministry-of-education/legislation/nags/

7 For more information on NZSTA’s approach to school governance, please visit: http://www.nzsta.org.nz/leadership/governance
direction of the school through the initial visioning phase. This meant that the EBoT created the leadership profile, hiring criteria, and human resources processes for building the initial leadership team, and carried out the hiring process. This included creating the recruitment package, creating the employment application processes and questions, completing reference checks and due diligence procedures, and finalising terms of employment for the initial leadership team. In addition, the EBoT oversaw and advised on hiring processes for the rest of the foundation staff appointments and the human resource processes designed by the foundation leadership team. For example, the hiring process for OJC made the EBoT’s intentions and priorities clear for those interested in being part of developing the school.

Finally, the board was also responsible for setting the vision statement for the school. The vision statement developed by the EBoT was *guarantee every learner engages in innovative, personalised world class learning*. The direction set by the OJC board embedded this vision statement into all strategic actions, culture-setting, and planning for the school. The vision statement acted as an anchor point for the foundation leadership and teaching staff to connect to all procedures, policy, curriculum, relational and organisational decisions made during the development of the plan.

**Creation of the Leadership Team and Direction Setting**

The foundation leadership team began with the appointment of the Principal or Leader of Learning (Lol), who then led the subsequent process for hiring the rest of the leadership team. Structuring the roles, determining numbers and nature of staff, and creating timelines were negotiated between the EBoT, the Ministry of Education (MOE) and the Leader of Learning (Lol). It
was determined that there would be three Assistant Leaders of Learning (ALol’s) appointed. The portfolio for each of these positions would initially be made up of the three areas identified as being key to the operationalisation of OJC (but would also change significantly over time). The initial focus was on the following, as described in the application package:

- How to address the concepts and pedagogies of developing an Innovative Learning Environment (ILE).
- Role descriptions of leadership team members:
  - **Learning Technologies**
    The focus of this responsibility will be maximising the potential of ICT learning technologies appropriate for the 21st century learner.
  - **Professional Learning**
    The focus of this responsibility will be overseeing the curriculum and leading the professional learning within the school that supports the pedagogy necessary to enable 21st century learners to excel.
  - **Evidence and Reporting**
    The focus of this responsibility will be the collection and reporting of evidence of effectiveness of teaching and learning and the leading of research into school impact. (OJC Leadership Team Application Pack, OJC EBoT, 2015)

The role descriptions and focus questions used by the EBoT set a very clear direction for the early stages of development. The beginning of planning focused on:

- effectiveness in leading initiatives in curriculum delivery and pedagogy;
The EBoT clearly set the tone for the school by outlining the mission of the leadership team as “investigating appropriate pedagogies and structures for a 21st century year 7 to 10 school, aligned with the board’s vision, and developing procedures that support those pedagogies and structures.” (OJC Leadership Team Application Pack, OJC EBoT, 2015, p.6)

While the EBoT’s mission throughout their planning clearly revolved around community voice and governance as defined by the NZSTA, once the initial policy documents were adopted and the leadership team selected, the EBoT’s role in developing the plan would become one of quality control, accountability checkpoints for compliance, and leading all stakeholders’ collective responsibility for delivery of the vision set by this group.

The School Leader and Leadership Team

Immediately following this, the Lol began to incorporate an approach to team development, communication, and collaboration that would be embedded in every process for the rest of the plan. The particular approach that was selected by the Lol and approved by the EBoT was the Hermann Brain® Whole Brain Thinking model (Appendix A1) and its related tool, the Hermann Brain Dominance Instrument (HBDI).
The Whole Brain® Thinking model is a scalable framework which provides a lens for planning, understanding and insight. It acknowledges that different tasks require different mental processes, and different people prefer different kinds of thinking. Whole Brain® Thinking helps organisations get better results when they can strategically leverage the full spectrum of thinking available. (Hermann Brain, 2011)

Specifically, the HBDI approach to psychometric analysis was used alongside the application and interview process for the three ALol positions, as well as for all subsequent applicants involved in the planning processes. The HBDI model gave the EBoT, Lol, and later, the leadership team, insights into applicants’ preferred thinking and communication styles. In addition, an intentional effort was made to create a team with diverse thinking preferences and to consider these preferences as being equally important as subject specialties and previous teaching experience. This was one of the deliberate ways the team was created to enhance possible divergent thinking and innovation through leveraging diversity.

The initial direction-setting process included three distinct processes: Whakawhanaungatanga, Visioning, and Inquiry.

**Principle 1: Whakawhanaungatanga**

*Whakawhanaungatanga*, or building and maintaining relationships, was the first priority of the leadership team before the planning could begin. It was established from day one that the processes or “way we do things” at OJC would be relational. Throughout the evolution of the
process, returning to principles of whakawhanaungatanga would underpin any and all future work pre-plan, post-plan development, and throughout the operationalisation of OJC. This commitment to developing what the MOE (2015) describe as “reciprocal and responsive” relationships, was mandated and led by the principal of OJC before official hiring processes began, and he allocated much of the first term of the year leading up the opening of the school to this focus. Discrete experiences and processes were used to establish this ethos and can be summarised as:

- developing knowledge of others,
- sharing stories, and
- sharing experiences.

The next key element during whakawhanaungatanga took the form of sharing stories. This included both past and present professional and personal stories of each team member. This sharing particularly highlighted pivotal life events that contributed to the leadership team’s teaching and relational approaches. Storytelling took on many forms for the team. Informal sharing or reflecting when reminded about previous experiences, intentional prompts that required the team to each share a story that reflected a specific belief about teaching and learning, and even drawing pictures that helped to express personal and professional journeys and learning were all a part of the wider storytelling experience. (Appendix B1 & B2)

It was also significant in that it was the first time Julia Atkin’s work From Values and Beliefs about Learning to Principles and Practice (1996) was introduced as a key document that would inform the implementation plan processes from the start. Atkin’s paper unpacks how deeply held, yet not often articulated, values and beliefs shape our lives as individuals, and as educators. She
unpacks how preconceived, taught, or experienced ideas about education influence our practice as teachers and leaders. However, more significantly, Atkin goes further to advocate for some ways forward on how these influences might be discussed, shared, and used to shape visions and develop principles and practices in the school environment. Atkin does this with simplicity and clarity. Even more critically for the whakawhanaungatanga process for the leadership team, she also provides, in her 1996 paper, a series of processes that can be used to work through the experiences, values and beliefs of each member. (Appendix A2) The leadership team read through this paper, and revisited it regularly, sometimes daily, with in-depth work through the exercises in the paper, sometimes as a touchstone or reminder to the work we had agreed to do, and then again when inducting new staff and working on creating the plan with all staff who would be involved throughout the entire journey. (Appendix B3 & B4) This paper forms one of the key documents that was both driver and process for everyone involved in “The way we do things” at OJC.

The OJC leadership team used Atkin’s work for a number of reasons. The first was to begin to build an approach to the school that took the standpoint of developing OJC to be a living learning community, self-directed, and reflective (Atkin, 1996). In particular, Atkin identifies the forces that seem to work most strongly against this ethos and then advocates for experiences and dispositions which will mitigate these tendencies. She outlines these forces as the tendencies to:

1. react to outside mandates or pressure for changed practice by accepting practices in an uncritical, unquestioning manner;
2. adopt a mentality of ‘keeping up with the Joneses’ and, what Michael Fullan (1991) has termed ‘groupthink’;

3. act out of the patterns of the past rather than as deliberate and conscious designers;

4. look for simple solutions to complex problems - to look for ‘black or white’, ‘either - or’ solutions. (Atkin, 1996, p.1)

This particular phase of the process work would not only set the tone for the leadership team but also be revisited again and again throughout many of the strategies used to develop the school’s implementation plan. In particular, it is important to note that working from a values-and-beliefs-based approach would form the core of how each individual process was used each step of the way to planning OJC’s ILE. At this early point in the pre-planning phase, techniques described by Atkin were used by the leadership team to stimulate the expression of explicit values held by the team. Guided imagery, photolanguage, and provocations which helped to articulate underlying personal values were completed by all members of the team. The purpose of these exercises was to supplement the ongoing team and relationship building happening at that time, but also to help the early team to capture, identify, describe and share our values and beliefs about teaching and learning. (Appendix B5 & B7) These very simple techniques stimulated discussions and further exploration for weeks during this part of the process. More pointedly, they also guided the leadership team through developing a very in-depth and working knowledge of our teammates’ values and beliefs about education. This built the foundation for how to proceed and work
together as an effective team. The OJC leadership team and foundation staff involved in the planning would go back to this resource time and time again.\(^8\)

The final crucial element in the whakawhanaungatanga period for the leadership team focused on creating and participating in opportunities for designing opportunities for shared experiences. Again, this would be a process that was repeated and honed when the rest of the planning team came on board. Much of the storytelling and developing knowledge of others at this time also helped to inform how and what shared experiences were planned. From an anthropological standpoint, food-sharing as a human-act develops bonds and relationships. The leadership team intentionally created challenges and “quests” by planning trips to other schools, to and significant places to each team member and to the OJC community (for example, meeting with and visiting with the local iwi, Ngai Tai, and their marae). This allowed everyone to hear each other’s stories, visit the people and places that had inspired each team member in his or her professional and personal lives. Everyone also experienced one significant voyage-type “quest”. Planning the less extensive travels around New Zealand formed the basis for illustrating the storytelling of the individual team members. The point of these practises was to foster empathy and build relationships amongst the team. However, choosing to plan a significant overseas learning “quest” challenged the leadership team to take on a large project early in our collaboration and to work together in unknown situations to solve unseen problems, and undertake collaborative meaning-making on a daily basis.\(^\text{(Appendix B8)}\)

\(^8\) It should also be noted that Atkin’s work, and the paper referenced here in particular, is also closely connected to the Hermann Whole Brain\(^*\) Thinking model referred to earlier in this paper.
around building collective sense-making during this period developed the leadership team’s identity as a group and built a solid foundation for moving into the visioning process.

**Principle 2: Visioning**

Visioning is a participatory and inclusive tool that brings teams or stakeholders together. It asks them to develop a shared vision of the future. It is by nature collaborative, a collective sense-making and consensus-building experience. A group engaged in visioning must explore and accept where they currently are. They then work together to create a realistic map of where they expect to be in the future. Visioning processes are used to create shared written and visualised strategic objectives that conceptualise a group’s long term goals (Keller, 2003).

According to Keller, visioning is typically done at the beginning step of any planning process at all levels. It can be used in:

- Activity planning. What will be the end result of the activity?
- Organisational change. What kind of organisation do we want? How will it be structured?
- Formulating an overarching development vision or strategy.

(Keller, 2003)

Visioning is an essential step at the outset of the process (to gain a shared vision of the kind of organisation the group wants to develop) and the visioning process should be implemented before decisions are made. A visioning process can last one day, several days, or months depending on the complexity of issues facing the community (Keller, 2003).
Many different approaches to visioning were used at OJC. The LoL lead these activities which included common visioning practices such as collating keywords, drawing pictures, sharing images, creating working groups, stating objectives, contributing to shared platforms such as graphic organisers, and using shared digital visioning tools such as Pinterest, Trello, shared physical and digital documents and folders, and playlists.

The visioning process for the implementation plan that the leadership team began in these early days would not be complete until the rest of the foundation team came on board. This work would continue through the entire planning phase and the process is strongly reflected in the learning design and organisational elements of the OJC ILE. It should also be noted that these processes still continue as valuable tools for growth now that OJC is operational.

The drivers for approaching the pre-implementation planning phase with a visioning process focus can be described best as somewhat of a paradox. The movement between the whakawhanaungatanga processes and visioning was both organic and manufactured. The whakawhanaungatanga phase, and the focus of many of the relationship-building experiences, was on connecting with the leadership team’s values and visions about learning. This led seamlessly to the use of the visioning process strategies to begin creating collective goals. At the same time, had this visioning focus been left to develop unnurtured and completely unstructured by the Lol, much of the consensus-building and development of specific visions or potential outcomes likely would not likely have occurred.

Another driver for the use of the visioning process was the past experiences of the team, in particular those of the Lol. Visioning is not a process that can be undertaken without a team
member who can lead the group confidently through the process. The Lol utilized a variety of visioning tools and strategies with knowledge and mastery. It is also important that the person facilitating this process is not afraid to apply repeated attempts or use different strategies if the first attempts are not satisfactory (Keller, 2003). The Lol’s previous experience as a “start-up” principal, and with his connection to other innovative leadership networks are, without a doubt, one of the the most important drivers for the application of the visioning process with such rigor in the development of OJC’s ILE. This also meant that the Lol clearly understood the importance and implications of completing a visioning process before any decisions about the plan were made.

**Principle 3: Inquiry:**

A Teaching, Learning, Leading, Collaborative Sense-Making & Collective Intelligence-Building Process

One of the values and beliefs about teaching and learning that came through strongly in the visioning and whakawhanaungatanga principles was about the nature of ‘Inquiry’ and its many forms within the education sector. As the Whakawhanaungatanga process merged with visioning, inquiry as a process in many forms often made its way into conversation and noticing. Discussions around constructivism, learner agency, deep learning, and meaningful learning came up frequently. While these are not exclusively related to inquiry, they are connected. When these interactions happened alongside unpacking the curriculum document and recent research into effective pedagogies and practices, inquiry itself as an adaptive process seemed unavoidable at

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9 “Start-up” refers to the fact that the case study school was not the Lol’s first new school development. The Lol had the experience of beginning a new school in the past.
times. Because of this, an inquiry approach was decided on, particularly in relation to the “big stuff” - the important decisions that had to be made about curriculum, teaching, learning, and how to localise complex and interrelated parts to fit the needs of the OJC community. The following description of inquiry as a process that could be applied to the OJC approach to developing an implementation plan, sum up the reasoning for why this type of thinking process was used, particularly in the early stages of planning:

*Inquiry-based learning* is a form of active learning that starts by posing questions, problems or scenarios—rather than simply presenting established facts or portraying a smooth path to knowledge.

(Wikipedia, 2017)

Similarly, Australian educator Alan Reid discusses the impact of teaching as inquiry as professionals who are able to theorise systematically and rigorously in different learning contexts about their professional practices – including the issues, problems, concerns, dilemmas, contradictions and interesting situations that confront them in their daily professional lives; and can develop, implement and evaluate strategies to address these. That is, educators are understood as people who learn from teaching rather than as people who have finished learning how to teach.” (2004, page 2)
The New Zealand Curriculum document (NZC) and MOE also highlight the pedagogical implications of teaching as inquiry, inquiry learning, as well spirals of inquiry as integral to leadership and organisational development.

A number of New Zealand educational texts stress the critical role of teachers and school leaders in using inquiry to solve instructional problems and improve student achievement. Two examples that serve as practical guides on inquiry-based practice are *Using Evidence in Teaching Practice* (Timperley and Parr, 2004) and *Practitioner Research for Educators* (Robinson and Lai, 2006). The latter argue that:

"Good teaching and good decisions are based on high-quality information, not on taken-for-granted assumptions about the causes of children’s reading failure or the worth of new curriculum resources. The quality of information improves when everyone is open to the possibility that what they had previously taken for granted may not stand up to scrutiny. Teachers who are skilled in processes of inquiry can detect weaknesses in their own thinking about practice and help others to do the same." (NZC, page 6)

Therefore, for all its forms, references, and possible implications in a school organisation, way of being, and teaching and learning practice, it seemed crucial that the final underpinning process that would be employed by the team in its early stages was inquiry.
When the leadership team decided to take an inquiry-informed approach to discovery, and to incorporate learning as inquiry, as well as professional and collaborative teaching and leading as inquiry, this key process and driver became embedded in everything we undertook. By understanding and questioning contemporary learning practices and other ILE approaches, we made a commitment to fulfilling the inquiry-cycles process components to the best of our ability. In particular, a very clear intention was set to not rush through the immersive or provocative stage to create or answer driving questions too quickly. This approach at times may almost sound leisurely, or even dismissive of the amount of planning, documentation and time investment that go into establishing a new school. It would also be inaccurate to say that an inquiry process and approach were used exclusively for all elements of the OJC implementation plan. However, the justification for including inquiry processing was, in fact, simple. Decisions and processes relating to teaching and learning, and those things very directly connected to these elements, would undergo some form of collaborative inquiry in order to continue to reflect the multitude of influences, localisation factors and interconnectedness that the team would need to embrace. This included being able to conceptualise the complexity of learning design elements such as curriculum, pedagogies, practices, and setting targets. It also included the impact of organisational elements such as groupings, time allocation, use of the physical environment, and technology. Finally, the inquiry process would also support driving other processes involved in determining the relational elements such as teacher roles, skills sets, and provisioning, guiding interactions between the members of the learning community, and how community consultation and communication might be handled. (Appendix A3)
The depth of thinking required to reflect critically on the impact of our practice and to use the information to make decisions about where to go and what to do next are at the heart of inquiry. This understanding of collaborative inquiry really expresses the ethos that would be embedded in all of the processes for OJC’s plan development. Reid offers the following perspective:

I understand inquiry to be a process of systematic, rigorous and critical reflection about professional practice, and the contexts in which it occurs, in ways that question taken-for-granted assumptions. Its purpose is to inform decision-making for action. Inquiry can be undertaken individually, but it is most powerful when it is collaborative. It involves educators pursuing their “wonderings” (Hubbard and Power, 1993), seeking answers to questions or puzzles that come from real world observations and dilemmas. (2004, p.3)

Considerations for Application of Principles

Deep inquiry as a process used to arrive at the best possible results in context can be time consuming. Because of this, it was deemed that inquiry would be unnecessary for what were considered simple or administrative tasks. For example, the uniform, decisions about documentation and archiving, hosting official and unofficial guests, building relationships with the education community in the neighbourhood, and other more day-to-day operational tasks were not deemed to require deep inquiry. These sorts of tasks were split between the team based on the developing understanding of one another’s capabilities, which stemmed from the initial whakawhanaungatanga and visioning processes. This is not to say that at some times there was not debate about what constitutes a lesser task not needing in-depth inquiry, and what more
significant aspects should have this process applied to them, but it was necessary to select areas for inquiry in order to make progress towards opening the school at in a timely manner.

**Summary**

*Whakawhanaungatanga*, visioning, and inquiry became embedded in the development process and were referred to frequently as the EBoT and leadership team set the early direction for the school. The selection and commitment to these processes, and carrying them out well, would mean that they became not only ways of being, but also that the theory, experiences, and research around them would also become drivers for future work and planning. These three key processes and the contemporary research that were selected as touchstones became *go to* foundations of practise as the team grew and involved the foundation staff. These touchstones also informed how and what approaches and communication strategies we would use when engaging with our community members, parents, and learners. They were at the heart and intertwined in the ecology of everything else we did as a dynamic organisation or complex organism from the beginning to the end of the implementation planning - and beyond into operationalisation.

**Vignettes**

**Vignette 1: Relational elements of the OJC ILC plan.**

Most closely connected with the *whakawhanaungatanga* principle in the development of the
ILE concept, according to both the New Zealand MOE and the OECD innovative learning environments descriptors, is the makeup of a school’s ‘relational’ elements. These areas include how a school plans for and implements the following:

- The professional learning and development of staff;
- The overall use of teacher/facilitator resources (including team and individual teaching);
- The role and skill set of the teacher/facilitator;
- The role, expectations and development of the learners;
- The professional backgrounds of Teachers/facilitators, Leadership and/or other staff;
- The roles of senior and middle leadership and the relevant structures and systems;
- The community and stakeholder communication and consultation methods and focus areas;
- The links to other learning environments/schools, including those in other communities and countries;
- The approach to community consultation and their voice and participation, and any other key personnel and relational elements.

Relationships, human interactions, and culture are at the heart of how any organisation functions. They are the lived values and the quality of team interactions and collaborations. If they are not planned for, these interactions may happen sporadically, without intention, and without any understanding of cause or effect. This perspective framed how the team would begin to set organisational norms in order to support the work being done.

*Considerations for the use of the selected processes.*
There are two whakatauki, which illustrate the principle of whakawhanaungatanga that underpin all the other processes and drivers that the school undertook - particularly throughout developing the relational elements of the ILE. The first is perhaps one of the most quoted whakatauki in education circles:

**He aha te mea nui o te ao**

What is the most important thing in the world?

**He tangata, he tangata, he tangata**

It is the people, it is the people, it is the people

The second is:

**He waka eke noa**

the canoe which we are all in without exception.

Ruth Herd (2016) elaborates on this and describes the proverb in the following “… the whakatauki refers to the collective consciousness that affirms belonging in a group.”

These two whakatauki came up regularly in conversational references of the team. The way in which the processes were approached took care to put the people and the journey of developing a collective approach to creating the implementation plan at the heart of the work that was being done at that time. This ethos meant that whatever processes were used - particularly those used to develop the relational elements of the plan - needed to fit the ethos of
whakawhanaungatanga. With these considerations in mind, the following processes were used most frequently to develop the relational elements of the plan:

- **HBDI** and its approach to embracing the individual as well as that person’s role in the team;
- **The Vision, Mission, Objectives, Strategies, and Action Plans (VMOSA)** planning tool and its focus on bringing together key stakeholders in communities or organisations to co-create strategic direction and actions;
- **Agile** processes for education which are based on a manifesto that clearly places human beings, interactions, quality learning, and a responsive approach at the centre of the way this technology development process is used in educational settings.

**Relational elements and process features.**

The Leader of learning (Lol) in particular was responsible for setting the direction, including decisions about the use of time, resources, and choices of activities and what processes were used for the relational elements of the implementation plan. The Lol’s belief and leadership prerogative was to focus on developing relational trust, an understanding of the value of collective intelligence, and ensuring the wellbeing and, in particular, the *taha whanau* (literally *family wellbeing* - or social well being). These elements were considered and addressed regularly. The leadership team also supported the “culture beats strategy every time” thinking. However, it was clear that the Lol set this direction and his approach included a variety of methods and experiences - both formal and informal - that became key features of the processes that were
used. These included shared meals, food-making and sharing\(^{10}\) (though it must be said, a significant portion of dialogue around the table was education-focused!), as well as special stops at local eateries while on learning excursions. Each of these strategies brought the team together informally. Other aspects of this focus on building and maintaining relationships included the embedding of storytelling in day to day work life, employing humour, embarking on road trips and retreats, and visiting other professional networks. (Appendix B11) All of these shared experiences became part of collaborative sense-making for the team. The entire leadership team also worked through the HBDI processes for understanding self and working in team environments, and initiated the first tentative steps towards using Agile principles and processes for relational organisation and collaborative norms.\(^{11}\) Similarly, the rest of the foundation team went through the HBDI process and were involved in using Agile processes for particular aspects of the relational elements of the plan. These processes were used throughout the year prior to opening the school and took place largely in the team work room and on a staff working retreat.

Digital tools were used to administer the HBDI questionnaire and all staff were given their profile information in both digital and physical formats. Paper copies of HDBI team, meeting, conflict resolution and collaborative strategies were also posted and available in the workroom for easy reference. The ‘Agile for Education Manifesto’ was posted for reference on the working whiteboard calendar space. The team also employed scrum processes including stand-up

\(^{10}\) It is worth noting that food sharing, from an anthropological and ethnographic perspective, is nearly a universal activity associated with developing kinship or community relationships. While it is easy to overlook eating and cooking together as a process, there is no question that in this situation, food sharing activities were a crucial part of how the relational elements of the ILE were designed. bread-making, sausage sizzles, visiting Dive Bars on tour for dinner, sampling hot dogs at Sefeco Field, fishing, Kiwi BBQ’s with industry experts, and many more food based experiences all played a role in bringing the team together and embedding the principle of whakawhanaungatanga throughout all processes and elements.

\(^{11}\) It should be noted that Agile in particular is the first instance in study that provides an example of a process being clearly identified and used, but it was also noted that Agile as a process and set of tools was new to the team and not adhered to strictly.
meetings, scrum masters, and small sprints. These were used to work on education-adapted user stories and were reflected on the walls, whiteboards, and in digital spaces such as SLACK. Digital Kanbans were also used to collaboratively manage workflow and task clarity and allocation.

**Processes used for relational elements.**

Because the relational elements were positioned at the heart of the rest of the ILE elements, the messiness and interplay between principles, drivers, and the processes used throughout the development was the most significant. Arguably, every process mentioned, and some not included, in the entirety of the research collided with the development of the relational elements. The nature of interpersonal human interactions working within a complex system on the task of creating an educational ecosystem whose elements necessarily need to interact means that claiming each aspect of the creation or final outcomes as discreet would be a misinterpretation. However, in terms of the research, other processes and elements that contributed to and collided with the relational elements were more strongly associated with other areas, and, therefore, only those that were exclusively aligned with the relational elements are presented in this vignette. Similarly, the principles of *whakawhanaungatanga*, visioning, and inquiry and their inherent strategies and sub-processes also played critical roles in the processes that led to the relational elements in the plan. With that said, two processes connected to the relational elements stood out in the research: the use of the VMOSA action planning process and the influence of Agile and its methods.
**VMOSA and community consultation planning and participation.**

Successful schools have strong connections to their communities, and undertake meaningful and valued consultation and participation processes that reflect the needs of the community (ERO, 2016). In order to make sure the team was not approaching consultation and engagement in a “cookie cutter” manner, two key things were considered. The first was finding key community activators and influencers who could provide the team with insights about the ways in which the new and developing Flat Bush community might prefer to engage. This was driven by the principle of *whakawhanaungatanga*. Second, the leadership team articulated the need and desire to approach consultation in a multimedia way that was tracked through a system. The idea was that this would help the team to spot gaps or missing voices, and to ensure that any trends or patterns of successes or failures in the participatory processes were recorded and used as insights to learn from for the future. VMOSA was the tool used to track and influence these consultation processes. VMOSA stands for Vision, Mission, Objectives, Strategies, and Action Plans. Essentially, VMOSA is a practical planning process recommended for helping community groups define their vision and develop action plans and practical strategies to enact the planning (Community ToolBox, University of Kansas, 2017). VMOSA is a recommended tool for community-based initiatives, as its focus is on developing short-term strategies that work towards long-term goals, working with all stakeholders who will be affected by the work being done, and providing a rigorous framework for building consensus. It is important to realise that the team did not always use the VMOSA tool explicitly. It was not a tool that was intentionally selected by the team, and was sometimes updated retrospectively. Two members of the leadership team in particular took the initiative to keeping the OJC VMOSA framework updated, and brought considerations and language of VMOSA to the table when community consultation work around
the relational elements of the plan were being addressed. Of particular note were that many of the potential barriers anticipated by the team as part of the framework were not the actual barriers faced. This underscored the importance of undertaking community work with a frame of reference in mind so that underlying assumptions are articulated and debunked when necessary in order to move forward productively as a learning community. VMOSA was also particularly useful in ongoing tracking of actions and interactions and helped to highlight what types of participatory events were dominating, and which members of the community were given more time. This could then be incorporated into the team’s reflective processes in order to enhance more valuable consultation initiatives to target more of the community. (Appendix B12, B13 & B14)

**Agile: Kanbans, Standups, Sprints, and Scrums.**

After reading the Agile Schools Manifesto and considering the OJC focus on *whakawhanaungatanga*, the synergy between the planning and *Agile* became clear. The Agile Schools Manifesto reads as follows:

*Individuals and interactions over processes and tools;*

*Meaningful learning over the measurement of learning;*

*Stakeholder collaboration over constant negotiation;*

*Responding to change over following a plan.*

(Peha, 2011)

Agile is a time-framed and iterative approach to software development which addresses project management in an incremental and human-focused manner. It is a set of strategies where
problem solving evolves through collaboration between self-organizing and multi-purpose teams. Agile was a slow burn with the leadership team. It was introduced in small pieces that focused on the tools, not the principles. The team began working first with kanban boards with varying degrees of success, then added on standup meetings, and began informal work on sprints and scrum methods for dividing up projects. (Appendix B9 & B10) When the foundation staff came on board, these were a part of the functioning system in terms of day-to-day operations and how projects were delegated, carried out, progress shared, and challenges addressed with collective intelligence. Over time, this approach dwindled, possibly because of the overall lack of experience and/or commitment to the principles which may have led most team members to view Agile as more of a set of tools easily replaced by other tools, rather than a set of principles which drive how a team might think about innovation and productivity. However, the evidence of the workflow and impacts associated with the simple Agile tools used, even by those completely new to the concept, were worth investigating and may warrant revisiting in the future.

**Constraints and enabling factors.**

One of the major constraints that influenced how the relational elements were addressed was time. Because developing strong relationships was pinpointed as the area of most importance, time was allocated to the work that contributed to this aspect of the plan above all other things. However, because of the organic nature of many of the strategies used to achieve this outcome, staff reflected that it also meant that at times some of the planning that was to result from this work was not given the same amount of time flexibility or capital. In particular, staff commented retrospectively, that at the time they sometimes wished more time was spent on
actual concrete action and strategic planning work. However, many also followed up this observation in the questionnaire by acknowledging that, now the school was operational, they were grateful that the time had been spent in this way as it made them feel more comfortable and confident refining and improving operations based on the plan once the school was open.

Another constraint the team experienced when working through the relational elements of the plan was the lack of overall experience and understanding of the Agile principles, process and tools. One of the Assistant Lol’s had used this structure in the past with both teaching teams and groups of learners. It was initially introduced one element at a time to the rest of the leadership team and then rolled out to support how the whole foundation team began to work together. Because only one person, who was not an expert, was familiar with Agile as an educational project management system, and the priority was around more whakawhanaungatanga-based activities, it is safe to say the practices were used, but not to a high standard or expert level.

An enabling factor was the Lol’s status as an HBDI facilitator. The Lol had completed training, used the HBDI strategy with other groups, and ran the practice as a consultant for a variety of other schools. Without his training and knowledge, this process likely would not have been used, and certainly would not have been implemented and referred to as part of the regular scope of operations if this hadn’t been the case. It meant the team’s profiles were completed and unpacked on an individual and team level by a certified expert who was also able to coach and work alongside staff using the preferences techniques and strategies to a high level.
Vignette 2: Learning elements in the OJC implementation plan

A key area of difference in the development of the ILE concept according to both the New Zealand Ministry of Education and the OECD innovative learning environments descriptors, is the makeup of the ‘Learning Design’ elements. These areas include how a school plans for and implements the following:

- The development of learners’ knowledge and understanding, skills, attitudes and dispositions;
- the organisation of the intended curriculum;
- the intended pedagogies and theories;
- the assessment pedagogies and methods;
- the values and principles of learning;
- the intended teaching and learning practices and their intended outcomes, and
- any other key learning aims and elements the school and community deem planortant in terms of localising the curriculum and learning for the school community.

Schools that are operational consider these elements regularly. They are examined in a variety of formal and informal ways: in internal planning and review by teachers making decisions about their classes and individuals on a daily basis, leadership evaluations, school-wide initiatives, curriculum planning, assessment selection and data analysis, and approaches to collecting student and teacher voices on their experiences and learning. Each board is kept up to date via the
school’s internal review and strategic plan reporting procedures - just to name two. These areas are also targeted in external review processes. Individual teachers and mentors are asked to analyse and evaluate their work for the Teachers Council ethics and registration processes. The Education Review Office (ERO) also completes regular inquiries into each New Zealand schools learner outcomes, teacher-practices, leadership-practices, planning, assessment outcomes and more. One of the key parts of both internal and external school review also necessarily includes an in-depth examination of how these components fit together, impact the effectiveness of one another, and support the learning community in achieving positive learner outcomes - both in terms of achievement in relation to the New Zealand Curriculum and in terms of the learner’s overall wellbeing. Each component impacts on the others, and the ecological system of each school, ILE or not, must take into account how its decisions and processes affect each element of the school and each member of the school community.

For a new school undertaking the mission of creating its implementation plan, these ongoing mechanisms and sector expectations are also taken into account. Decisions must be made about how the school will incorporate the legal and professional standards of the community of practice into the implementation plan. The school team must articulate this to all who are involved in the evaluation process. The processes used to make these decisions, to select or innovate models or procedures, and articulate the intended plan, will greatly influence the learning design elements mentioned previously. In addition, the decisions made around who will be involved in this decision-making also influence the choices as well. For example, some new schools have establishment boards that play a significant role in determining policy and learning direction at the governance level before senior leadership or teaching staff are hired. Other establishment boards
focus more on community consultation and connecting with the learning community around the new school development in order to localise their approach. Others leave all of this decision-making to the foundation principal or leadership team. Yet other versions see leadership teams selecting one or two main processes to use and then applying them in the different areas of the plan, using processes to iterate and further re-iterate when staff come on board. Regardless of which approach is used and whom it is used by, the processes selected or even used by default, heavily influence the development of the implementation plan. The learning design elements are no exception.

**Drivers for processes used to determine learning elements of the plan.**

There are a number of drivers for OJC’s learning design for the implementation plan. These include both localised and wider educational research, communities of practice, trends and influences, such as

- the ethos of the establishment board and its approach to governance of this particular new school;
- the influence of the neighbouring schools (feeder primary and transition senior college) and their teaching and learning practices;
- contemporary research into success factors in learning, neuro-scientific approaches to learning, and new thinking around the nature of knowledge and how to both acquire and apply it (Transdisciplinary Authentic Inquiry Projects or TAIP);
- contemporary developmental models of learning, hauora and its impact on learning and the role of the school, and
• the trends, processes and decision-making in other new New Zealand and international/global schools or those perceived to be successful innovators of educational and learning design related practice/s.

Considerations for the use of the selected processes.

All processes used for the development of the learning elements in the plan were based on the principles of the work outlined in vignette one. Moving from visioning and relationship building to collaborative sense-making as a part of meaningful and productive collaborative inquiry (Timperley, Kaser and Halbet, 2014) towards developing the plan meant that some of the key work done was on embedding the principles for how the team would work. The focus continued to be on whakawhanaungatanga and working on developing a deeper knowledge of self for each individual and new teammates through the HBDI principles, and working through Atkin’s approach to Visioning and Collaborative Inquiry was the direction the team took. Time constraints also meant that the way in which this work was done would require other approaches that did not involve the entire team. It also meant that the leadership team leveraged key skills, knowledge, dispositions, and professional networks in ways that would enhance the planning process.

Learning elements and process features.

All members of the foundation team determined what the learning elements for the plan would be. This was accomplished through the input from a variety of whole-group, sub-group and individual configurations. This included Leaders of Learning, Learning Designers, Kainga Designers, and Learning Coaches, a total of 14 educators. Developing this part of the plan took place over 10
weeks during Term 4, 2016, the final term before opening in February of 2017, with the entire staff working on-site at the neighbouring Senior College. At this point, the leadership team had crafted the induction process with time allocated for professional learning, key readings, sharing, and other relational development activities, sessions or in-services as mentioned in the previous vignette.

Also worth noting is the approach taken to learning elements of the plan. This approach focused on saving the resourcing of time, man hours, and money for last. The intention was to fit these consideration to support the design, rather than to set these considerations up as constraints before the learning elements were developed. These organisational elements of the OJC ILE and how they are incorporated into the plan will be unpacked in vignette four.

**Processes used for learning elements.**

The principles and their inherent processes largely drove the approach used for planning the learning elements. The discrete processes identified most in the research as impacting this area of the plan were: collaborative Inquiry, spirals of inquiry, values visioning (in particular through the observational and experiential inquiry methods as outlined in Atkin’s *From Values and Beliefs about Learning, to Principles and Practices*, 1996), and collaborative processes including *Innovation Mall, Innovation Community, Elite Circles, and Consortium Collaboration*. An overview of the documents relating to learning elements showed that, over time, each of the previously mentioned elements was a part of a collaborative and on-going spiral of inquiry. This larger inquiry was then broken down into components and different collaborative processes were used in order to construct the details of the plan. As the collaborative processes occurred, regular
sharing with the wider team happened both informally, during formal pitching and/or sharing, as well as digitally, in order to maximize communication and opportunities for collective intelligence to support sub-group decision making.

The first phase of working towards developing the learning elements in the plan came directly from the whakawhanaungatanga principles and the processes and lead into visioning. In particular, the activities used to launch this process and begin to move from a relationship building phase into the relationship maintenance and shared goal phase of creating the learning approach hinged on very specific activities. Atkin (1996) suggests a range of shared experiences to support the development of the learning community and its goals while building understanding and consensus. The team completed each of the following processes to launch the work on learning elements for the OJC plan.

To “stimulate the expression of implicit values” (about teaching and learning) the team undertook guided imagery (p.9), used photolanguage (p.10), and identified values (p.10-11). This was followed by processes for clarifying beliefs about learning (p.12) and then examining how the group’s practices aligned with those beliefs. Atkin follows these methods with a reflective exercise using concentric circles and focusing questions in order to specify the relationships and congruence (or lack of), between core values and beliefs (WHY?), with the principles (HOW?) and the practices (WHAT - for example?) (p.17). As the team worked collectively on each of these concentric circles, it was also lived out as a large communal reflective tool which kept the work more or less in line with the processes the team had undertaken. Finally, the team engaged in shared visioning using the elevator analogy (p.12). This
was used by the team to unpack how these values, beliefs, principles and practices might play out over time. This collective visioning and concentric circle work resulted in the development of the OJC “We Believes”. (Appendix B1 & C1) This document then began to inform how sub-groups were created to address each of the learning elements for the plan. The “We Believes” became the gauge for the work to be completed. This approach made it possible for subgroups to continue working on other projects, using the the “We Believes’ sas the filter by which all the work would be evaluated. This helped to ensure that everyone had confidence in the integrity of the work being done.

**Collaborative processes**

The team used many models of collaborative and non-collaborative decision making. These have many similar traits, and, depending on both perspective and experiences, were applied either intentionally or unintentionally to create the learning elements section of the plan. This is unquestionably one of the areas that was observed in both the document analysis and teacher questionnaire as being present in the work that occurred. However, it is also one of the areas that was not described as explicitly or technically by primary sources. Therefore, it is important to reiterate that the research does not claim that the team used these particular collaborative processes as experts. The different models of collaboration were used based on the presence of the necessary components for each collaborative type, based on evidence of work in the document analysis and the experiences shared by the team in the participant questionnaire format. (Appendix A5 & A6)
Innovation Malls and Innovation Communities were processes which sprang from the development of the team wanting to experiment with the use of a genius bar\textsuperscript{12} concept and wonderwall\textsuperscript{13}. These two practices were identified early on as aligning with the values and principles work that had been done earlier. The other platform where innovation malls and communities were at play was as the result of the Agile Stand-Up meeting process, where challenges were shared and connections were made to work on solutions during these stand-ups. While initially this was not the intention of the genius bar, wonderwall or stand-up meetings, it was actually very effective. This emerging and evolving practice is another explicit reflection on the complexity of education as ecology theory. Processes and practices that were being used for other ILE elements now ended up merging with the learning element planning. These two practices in particular also became methods for publicizing issues or projects to the group (innovation mall). Those who were interested in working on particular aspects of this part of the plan and sharing other areas of work that had not yet arisen or been assigned by anyone in the group could then join working groups, often through the innovation community approach. The original process and intention now supported other connected ILE elements in an ongoing flow. These two types of collaboration were most closely associated with planning for the intended teaching and learning practices and their intended outcomes as well as the organisation of the intended curriculum. For example Elite Circles of collaborative innovation work were also employed for more specific parts of the learning elements in the plan. This approach was used

\textsuperscript{12} A genius bar is a concierge style expert tech support service system Apple\textsuperscript{©} Computers uses in many of its retail stores. Some schools have adapted this concept and use it to provide access to expert knowledge that already exists within the learners, teachers, or other community members who can offer advice, support or coaching to the learning community. In schools genius bars area practice associated with reciprocal teaching, peer mentoring, or peer teaching.

\textsuperscript{13} Wonderwalls are a strategy for making learning visual and displaying noticings, questions, or other provocations that are of interest in relation to a learning community’s current area of interest. They may include a range of artefacts, links, interactive augmented or virtual reality, images, readings, questions, etc that the learning community is thinking about.
most frequently with the following learning elements: the development of learners' knowledge and understanding, the development of learners' skills, the development of learners' attitudes and dispositions, the intended pedagogies and theories, and the assessment pedagogies and methods.

The strengths and skill sets of the team were leveraged to collaborate in this way around the specialist knowledge, professional networks, and expertise that individual team members brought to the planning. The ongoing work on the OJC “We Believe” document referred to earlier informed the non-negotiables for these sub-teams, and served as both a driver and quality control and as a collaborative norms mechanism.

The Consortium collaborative process was used the least frequently. As a new school, the focus for the team was on working with the existing community and developing a team culture and approach. However, there were some instances where the consortium collaborative process approach was used very specifically to target specialised plans. These fit under the heading of specific elements of the intended teaching and learning practices and their intended outcomes. These specific elements included consortium style collaboration with

- Two of the leadership team working with Mindful Aotearoa, the Mental Health Foundation of New Zealand, and the programme directors of the Pause, Breathe Smile programme to plan for an OJC approach to Mindfulness education.
- Two of the leadership team working with Apple New Zealand, an independent ipad education consultant, N4L, Cyclone New Zealand, and New Era Technology in order to determine platforms, workable and collaborative networks for IP, ID, and universal Apps for the learning community on the soft and hardware selected as regular learning practices.
• Two of the leadership team working on the graduate profile and gamified narrative assessment which was developed with an outside contractor with leadership experience in education in local communities. This was also pitched to a variety of experts for consultation including other tertiary, secondary, and primary leadership and assessment teams, as well as one gamification in education consultant.

• Two of the leadership team working with 2 contracted specialist leaders on developing transdisciplinary, learner friendly language for the numeracy and literacy progressions which were linked into the student management system (SMS) as well as teaching and assessment approaches.

• One of the leadership team, the library staff from the neighbouring senior college and primary schools, Auckland city council staff, National library staff, and the appointed OJC librarian working together on developing an action plan for integrating the school library into the learning practices and learner skill set.

**Constraints and divergence from processes.**

While it is easy to see the connections between the processes used for learning elements and the technical descriptors of those processes, it is also important to acknowledge the constraints of and divergences from the norms of the discussed strategies. The key findings from this perspective sum up the constraints and divergences as:

• Time;

• lack of large numbers and maximum diversity in human resources skills sets, expertise and operational experience with the local community;
- lack of experience working with one another (as everyone was newly hired) and relational experience and capital to be familiar and well practiced with one another in “taking action, checking, and scanning” (Timperley, Kaser, Halbet, 2014, p. 5) effectively, and
- the ongoing input of external networks.

Time, in particular, was a very slippery constraint. Many of the participants noted that spending so much time on the relational elements and the principle of whakawhanaungatanga was the right thing to do in retrospect. However, they did note that during the planning phase there was some concern about the ability to complete parts of the plan on time and to a high standard because so little of the allocated planning time was given to this aspect. There were many personal reflections, though, that emphasized the idea that this was a concern during the planning phases. However when implementation began, these participants agreed that in retrospect this was the right choice even though it did create a certain amount of bottleneck pressure to complete and make decisions towards the end of the process.

The range and depth of skills and expertise was surprisingly good for a total team of fourteen. However, the small number and nature of application processes, and the resulting relatively small foundation team of fourteen educators, meant that some skills and expertise were missing, and could not be found or developed during the planning process. For example, complete NZC Learning Area coverage was not possible in the hiring of the foundation planning team.

Some areas of planning took longer or may not have been considered due to the nature of the collective intelligence of the team and the sub networks. Similarly, the teachers employed had
a wide range of experience and expertise developing school implementation plans. Some were aware of a variety of processes that could be used; some tended to operate from their known experience perspectives rather than leveraging knowledge of new processes in order to collaborate fully in the design of the desired outcomes. For example, collaborative processes were clearly apparent in the document analysis and were described in the participant questionnaire. However, survey participants made very few references to discrete technical process features. This seems to suggest that often collaborative processes were undertaken by the majority of participants without their explicit awareness of the skill, knowledge and dispositions required to participate in different types of collaboration effectively.

A last constraint hinges on the reality that the school was not yet operational. It was difficult to test or gather wider stakeholder voice on how the learning elements of the plan would affect and support learner outcomes. Steps were taken to mitigate this. For example, the feeder school and some of the future OJC learners were engaged to pitch to, or trial pedagogical and practice ideas. A connection with another neighbouring school was made, and the staff went into trial approaches to collaborative learning, complexity and systems thinking, and practices for developing knowledge networks with the learners there. In the Timperley, Kaser and Halbet model of spirals of inquiry (2014), the trial and observe phase is crucial in order to gather valuable data on the effect of intended practices on the learners. (Appendix A3) However, the team still lacked the “real” situations in order to observe and understand what the impact of their planning might be in order to make further improvements and refinements before the plan would become operational. This would be a challenge for any team in a similar situation. However, the few insights gathered proved to be invaluable, and this is an area that was identified as time
consuming, but very worthwhile. Many of the constraints and divergences are notably similar throughout all parts of the plan and will be elaborated on further in the final critical discussion section.

Vignette 3: Organisation Elements in the OJC Plan

Drivers & processes for organisational elements in implementation the plan.

The third area of difference in the development of the ILE concept according to both the New Zealand Ministry of Education and the OECD innovative learning environments descriptors, is the makeup of a school’s ‘organisational’ elements. These areas include how a school plans for and implements the following:

- The mixes of groupings in different activities or at different times, including size of groupings;
- the composition of groupings (gender, age, race, abilities, personalities, socio-economic background);
- the use of time and sequencing of activities over time;
- the use of technology to support, enhance, or transform the learning;
- the physical set-up of the ILE and locations of learning with their respective rationales;
- the design and intended use of the physical environment in light of learning aims and needs of target groups, and
- any other key organisational elements deemed to be planortant to the innovation of learning in that particular school’s community and ILE.

The processes used for the organisational elements of OJC’s implementation plan were
collaborative and iterative. They are closely linked to the school’s wider professional network - in particular, other New Zealand schools’ experiences, approaches and resources, as well as innovations and ideas from schools internationally. At first glance, the timing, use of spaces, technology, and networking may seem a strange assortment of elements to group together and label organisational. Similarly, the ways these elements inherently impact on the learning elements and relational elements means that they could arguably have been included under either of these first two headings. It is also important to acknowledge that organisational components are often the most discussed in terms of the ILE both in critiques or celebrations of the wonders of contemporary learning environments and design. This includes in research, media, and common social and political dialogue. How these elements appear physically or digitally are often seen by the wider community as the hallmarks of the ILE for better or for worse.

Before narrating the processes used by OJC for determining the implementation plan for these elements, it is important to understand that the focus and main driver for the processes and planning of organisational elements for OJC focused on how these elements best supported the needs of the middle school learners in the Ormiston Community. The research clearly showed that the organisational elements were the final components of the planning, and were planned for as supportive considerations that would enhance the learning and relational elements planned for the

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14 A selection of media perspectives on ILE development in New Zealand from just 2017 alone includes Bigger Classrooms, Bigger Problems published digitally by Newsroom on SEPTEMBER 28, 2017, The Education Issue: Why flexible learning environments? Written by Derek Wenmoth and Published by Stuff.co.nz August 18 2017, and Teachers struggle with modern learning environments By ADELE REDMOND, published by Stuff.co.nz April 8 2017. Articles posted by general media, and education specific media, blogs, and personal opinion pieces are rampant in New Zealand media, and have been for the last five to ten years. The ongoing public narrative however, achieves little in the way of addressing the elements that make up an ILE, or why or how schools might go about achieving success when creating an ILE.
Ormiston Junior College and its innovative learning environment and its learning community.\textsuperscript{15} This emphasis on using organisational elements to support or enhance the learning and relational elements is reflected in

- the processes selected to put the main focus on planning for how the ILE elements would interact;
- the focus on how the organisational elements should support and strengthen the objectives of the entire implementation plan;
- the importance to the team on how these decisions should be grounded in research and the wider community of practice’s experiences, and
- that these parts of the planning should continue to allow for a long term iterative and research based approach in order to continue to allow for innovative practices for delivering the vision for the school to emerge.

Drivers

The drivers which helped to determine which processes would be used for this part of the plan came from four distinct areas. Each area has its own idiosyncrasies and communities of practice which is immersed in how that sector can best function. These four areas are

- time and sequencing: how time is allocated to curriculum, meetings, professional learning, breaks other time related needs; (In traditional educational thinking this would essentially be called the timetable and include teacher hours, class times and their organisation of

\textsuperscript{15} The only exception to this would be the physical design of the building and furniture provisioning which was dictated by the MOE and the PPP property owners. The pre-EBoT and Leadership planning for the school was done by the MOE and its design team. This group is not part of the research and has not contributed documents to the data for this research.
curriculum, and meeting and professional learning schedules - OJC would come to affectionately call their approach to this the TARDIS);

- groupings: how groups are made up in the learning community, including who they are made up of, what they are engaged in, and the mixture of these throughout time and space;
- technology: how technology is incorporated into daily operations, what technological tools or systems are selected, for what purpose, and by whom, and
- the physical and material space: how the physical space is designed, used, arranged, allocated, and resourced from a physical and material perspective.

Each of the outlined areas within the organisational elements also has its own discrete drivers that further influenced many of the details in for the organizational plan. Again, even within the scope of organisational elements, the overlap between drivers, processes, and the other two elements (learning and relational), were always at play. Therefore it should be noted again that the findings of the research are indications of important themes, but they are not exclusive.

As well, the underpinning principles of collaborative inquiry, whakawhanaungatanga, and visioning continued to play a role in the influences and sharing that would help determine the organisational elements included in the plan.

Considerations for: Processes for the TARDIS : LEAN’ing in through Design Thinking
Ongoing collaborative inquiry, *whakawhanaungatanga*, and visioning also continued to play a role in the influences and sharing that would help determine how the “time” capital was spent in the implementation plan. However, it was clear that the team would need to use a different approach to thinking about time, sequencing, groupings and allocations of people. Time is a tricky sort of capital to work with. It is inextricably intertwined with teacher contracts, leadership-management unit structures and uses, group sizes, and provisioning what you value as a school with the legal realities of mandated time during the day, week, months, and over the year. It influences what gets done well and is viewed as having value each day, and will influence how money is spent - from staffing to human resource management and what a school is recruiting human resources for, to decisions to intentionally over-staff and under resource, or vice-versa. This is just the tip of the iceberg in terms of how the potential allocation of time can influence what a school delivers and again attests to the complex ecological balance and relationships within a school environment.

To help the team begin thinking about time as a form of capital, the five LEAN principles were also introduced. For us as a school, the “customer” was identified as the learners and their families, and time/the TARDIS and how it is used was identified as both a product and system. It is important to acknowledge that this process and way of thinking was not comfortable or embedded. There were no LEAN experts on staff overly familiar with LEAN processes, and this approach had not been used by anyone previously for this sort of project. Although LEAN principles were likely only used on a surface level, the impact of flow and pull thinking, as well as investigating what the relationship between time and *value added* in terms of learning, might be
as another dimension to the Design Thinking process used to create the TARDIS, and the principles behind how it would be prototyped, and reiterated throughout its design processes.

Design Thinking 101

The Design Thinking process was employed at this point to help the leadership and foundation team work through the various influences and perspectives on how to spend the time capital in order to achieve the learning and relational elements we had already identified. This sounds straightforward, but was definitely easier said than done. (Appendix A3 & A4) While some members of the team had some very basic experience in Design Thinking through either professional development experiences or personal interest, many had no previous knowledge of design thinking, or its potential applications in education settings. This meant that this part of the planning process would also involve rapid just in time professional learning for the team, and a design thinking model identified to work from. Understanding the basics and use of the The Design Thinking for Educators toolbox by IDEO and the Stanford School models were touchstones and informed how we approached the task of designing the TARDIS. Introductory and learning experiences were then planned into the day to day operations for the team before undertaking the actual design.

Processes for Groupings

The processes used for how groups were created in the learning community, including who they were made up of, what they were engaged in, and the mixture of these throughout time and space, again aligned with the process for determining time and sequencing. One inherently influenced the value of the other and how it impacted on learning outcomes in the school.
Groupings and the drivers for the groupings were then articulated and modelled into values propositions. Once the team had articulated the grouping opportunities that we wanted included in the plan based on specific research as mentioned, the team then needed to define the unique value proposition of each element, and what capital (both time capital and resourcing) we were willing to allocate. It also meant that we needed to work out how this would align with time and materials, and what we were willing to compromise on through the design process. Although there are many considerations in terms of how learners may be grouped together to achieve different outcomes, the process for this part of our values proposition was remarkably simple.

Being comfortable with iterative thinking associated with Design Thinking which would be more deeply applied in how this approach would be given time capital in the planning phase, allowed the team to identify top priorities for groupings for starting a new school, with new learners. They then followed this up with possible considerations for future groupings - but leaving the “how” groups are made - up to the chosen pedagogy in each scenario. In this respect, the team decided that no guidelines would be made initially about student groupings that would impact long term planning. Rather the implementation for the first two terms was crafted to achieve the grouping qualities that were identified as important for creating a learning community, and was intentionally articulated to be more flexible once the learners would be settled in and their unique characteristics better known to everyone. The approach after Term One, was that groupings themselves would always be an iterative process linked to Design Thinking and prototyping, refining, responding and evolving. By consciously determining that ongoing processes would drive

16 These focused on relationship building, establishing a sense of security, establishing knowledge networks, grouping for diagnostic assessment, and groupings that would set the culture to be able to manage mixed and fluid groupings that could respond to the needs of learners and staff throughout the year.
how groupings were approached, rather than using a process to derive a fixed approach to groupings, the implementation plan itself embedded people’s needs before predetermined procedures and provided opportunities for stakeholder voice and professional noticings to inform how groupings would change and shift throughout the implementation of learning to best fit learners’ needs.

On a practical level, this meant that Term One of the groupings included in the plan was focused on setting the culture and providing stability. Groupings were focused on enabling learners and teachers to develop meaningful relationships within small groups with the long term goal of providing each learner with a sense of stability and care - and a “go to” adult and advocate for them within the school. This meant that the majority of the planned times and groupings focused on allowing for relationship building in small groups with the Kainga (School within a school) and MAC (much smaller _Mentor, _Advisor and _Coach group). There was an intentional focus on working towards creating a culture that embraced diversity in age, stage, ability, culture, language, and gender throughout these initial groupings. This initial process and how ongoing noticings, data and voice were collected both formally (through assessments, questionnaires, teacher observation formats, and focus groups), and informally, through anecdotal observations and informal conversations with stakeholders and amongst staff, set the stage for groupings to be addressed in an ongoing and evolving way - rather than future groupings being predetermined for the entire first phase of the implementation plan. By setting the culture early as being relationships and whakawhanaungatanga focused and responsive, it allowed the ongoing iterative process of the groupings element of the ILE to be central to the values proposition and how this would be allowed for in time, space and materials resourcing.
It is also worth noting that even though *Agile* processes were not used explicitly for working with groupings in this responsive way as they were in some other relational elements. *Agile* practices had been part of other parts of working, and the *Agile Schools Manifesto* was posted visually in the workroom. This made *Agiles* a part of wider provocations in the workroom throughout this entire period of time. While the document analysis data does not reference in any way an *Agile* approach towards groupings, the language staff used to describe the groupings drivers and processes clearly aligns with the *Agile Schools Manifesto*:

- *Individuals and interactions* over processes and tools;
- *Meaningful learning* over the measurement of learning;
- *Stakeholder collaboration* over constant negotiation;
- *Responding to change* over following a plan.

(Peha, 2011)

The ERO school self-review indicators model was also posted in the workroom as an ongoing visual provocation during this phase of development and the ongoing process that was agreed upon to continue to evolve approaches to grouping using research to inform decisions. This fits completely with the school evaluation indicators for ongoing improvements to these areas: “noticing, investigating, collaborative sense making, prioritising to take action, and monitoring and evaluating impact” (Timperly, Kaser, and Halbet, 2003, p.5). Again, it should be noted that in the same way the *Agile Manifesto* was not used explicitly to inform practice, the ERO evaluation indicators were also not explicitly mentioned, even though the processes undeniably
echo these sentiments, and similar language was used to describe the focus areas in the plan. This is in many ways a great example of how the messiness of the educational ecology can sometimes reflect research based practice, when it does not even intentionally or explicitly set out to do this. It also illustrates how the team were working through internalising common language and the focus on establishing and working from the basis of common beliefs and goals.

Processes for Technology

At this point, it also became clear that in many ways technology would become another type of capital in the school in terms of how it was dealt with in the planning. Collaborative inquiry work saw the team engage with consultants, trialling different technologies, asking other schools about their experience, and undertaking smaller group challenges amongst the team to get a feel for what technology systems and tools the implementation plan would need to include to best fit the learning and relational focus areas already articulated. The background knowledge and skill set needed were such that once the decision on the predominant platforms for student management system (SMS) and learning managements systems (LMS), and what device requirements we would have, the rest of the process for detailing the nuts and bolts of the plan was handed over to the Leader of Learning and the Associate Leader of Learning as well as a contracted consultant who had the skills and expertise needed to design the final approach to the implementation features the whole team was happy with and met the team’s expectations. This process always referenced the shared visioning and relational work done around articulating what the team believed would fit our values. No decisions were made quickly, and, arguably, sometimes the team may have even overly prolonged decisions when employing outside experts, researching best choice of
technology, developing skills in staff & students, clear discussion around purpose of learning versus tool choice in the attempt to get the best match for the intended principles and practices.

**Processes for Physical and Material Spaces and Resources**

Two processes came through the research data strongly as being the core of how physical and material spaces and resources were approached. The first is the basic *Design Process* associated with the architecture and interior design disciplines. The second most often referenced and articulated process the team used to approach the physical organisational elements was *LEAN thinking*, and the *Minimum Viable Product (MVP)* process. These processes formed the basis for how the team dealt with the drivers referenced above, and also acted as principle based processes that the team could refer to when any pain points, divergences, or issues arose. They were used to inform the thinking in relation to the physical elements, and also used to solve problems at each phase so that the team attempted to work from the same perspective in how they approached planning for this part of the school's ILE.

The Design Process we used was based heavily on the work of Mary Featherston and her design approach used when working with other New Zealand schools considering how to best think about their physical learning elements. The team had to diverge somewhat from Featherston’s process due to the nature of being supplied with both predetermined spaces and furnishings by the MOE. This meant a divergence from the order of the Featherston design process for the physical environment. Specifically, the space and some of the furnishings were not selected for the purposes identified in the participatory consultation part of the process, or the process stage addressing how learning principles become practice and are supported or enhanced by the
physical environment. In addition, because the school had not yet opened, the participatory capabilities of working with learners who would be using the spaces was limited. This meant that the ongoing approach to making sure we articulated the three F’s saw this element fall into the ongoing Finding category as the team knew the process would not end with the implementation plan, but needed to be carried over to when the school was operational and then adjusted through a participatory process with existing and new staff and learners.

The entire team participated in engaging with some of our future learners to gain their voice and perspective on what they needed from the physical elements to support their learning. The team also applied Featherston’s Inside/Out process using the information they had collected and the drivers listed above, to begin to create prototype designs for different areas of the school. (See Figure 1)

<table>
<thead>
<tr>
<th>PRINCIPLES</th>
<th>&gt;&gt;&gt; PRACTICE</th>
<th>&gt;&gt;&gt; PHYSICAL ENVIRONMENT</th>
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<tbody>
<tr>
<td>Beliefs &amp; values about all aspects of physical interpretation of principles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children, learning &amp; environment (are) designed as pedagogical practice</td>
<td></td>
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<tr>
<td>Role of school in organisation of people to support and reflect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Society curriculum content &amp; time (in) all aspects of practice</td>
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(Featherston, 2005)

Using this model as the basis for our work on these elements of the implementation plan, the team began working through the process. (Appendix B11) They researched, visited spaces, read, interviewed learners in our community, and teachers in similar spaces. This gathering of information led to a rapid prototyping phase which involved visual and physical thinking using scaled cutouts of furniture, materials, and learners and testing ideas on scaled blueprints of the future building, measure and taping off areas of the pre-operational workspace and moving around actual furniture samples to create models of potential learning settings and flexible and purposeful learning spaces. This work would be used to form the first working iteration in the plan, and it was understood that it would be revisited over time during implementation in order to continue to refine and meet the needs and principles of the learning in the ILE.

The LEAN model focuses on creating more value for customers with fewer resources. A lean organization understands customer value and focuses its key processes to continuously increase it. The ultimate goal is to provide perfect value to the customer through a perfect value creation process that has zero waste.
Key process components that the team worked with closely correlated to The LEAN Institute’s description of the process and value proposition for undertaking LEAN techniques.

1. Identify all steps in the value stream for each product family and eliminate steps that do not create value when possible.

2. As flow is introduced, let users pull value from the next upstream activity.

3. As value is clarified, begin the process again and continue it until a state of balance or goals for the product, service, or system have been reached.

While LEAN typically drives manufacturing or business products, using it to resource and set up spaces and materials fit well for a team and organisation looking to make sure time, energy, and capital was spent on the shared values and principles, and not on bells and whistles or tools that would not be used. Specific LEAN processes were used by the team to make decisions about how spaces were arranged, what provisionings were allocated, the size and placements of the setting prototypes that would be used, who was responsible for thinking about what area, and how to manage quality control. The team did not use all Lean tools or techniques, but applied those that were a best fit to support the Design Process already in use. The Lean process tools and techniques that could be identified from the data are illustrated in Table 4.

Table 4

*Lean Tools and Strategies Identified or Alluded to and used by the Team*
<table>
<thead>
<tr>
<th>Lean Process Used</th>
<th>Specifics of Use</th>
<th>Process Application for OJC implementation Plan</th>
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<tbody>
<tr>
<td><strong>Cellular Manufacturing</strong></td>
<td>Cellular manufacturing is an approach in which all equipment and workstations are arranged based on a group of different processes located in close proximity to manufacture a group of similar products. The primary purpose of cellular manufacturing is to reduce cycle time and inventories to meet market response times.</td>
<td>Learning settings and use of space, technology (eg apple TV’s, microphones, etc) and furnishings were considered in relation to workflow, task orientation, and in proximity to teacher/ learner expertise availability (Eg: genius bar, coaching hubs, conference areas).</td>
</tr>
<tr>
<td><strong>One Piece Flow or Continuous Flow</strong></td>
<td>This concept emphasises reducing the batch size in order to eliminate system constraints, a methodology by which a product or information is produced by moving at a consistent pace from one value-added processing step to the next with no delays in between.</td>
<td>There was a focus on prototyping and designing for targeted areas within the school as a starting point for the implementation plan - rather than setting up the entire school - which wouldn’t be operational until at least roughly 2020. This was done in order to minimise transitions, constraints in materials and information created, and so that these inform one another, rather than existing separately. (For example, the selection of digital tools and platforms, the selection of which spaces to start with and develop first, the selection of furnishings and materials and quantities to begin with before modifying to scale).</td>
</tr>
<tr>
<td><strong>Pull Systems and Kanban</strong></td>
<td>A methodology by which a customer process signals a supplying process to produce a product or information or deliver product/information when it is needed. Kanban is the signal used within a pull system through scheduling combined with travelling instruction by simple visual devices like cards or containers.</td>
<td>Kanbans were used intermittently to inform teams of progress on projects, and the roles of interconnected projects, budgets, and resources. The ways in which teams were allocated areas and materials and capital to manage the planning for this phase and the frequency of reporting back to the larger team or team leaders reflect this process.</td>
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<tr>
<td><strong>Five Why's</strong></td>
<td>A thought process by which the question &quot;why&quot; is asked repeatedly to get to the root cause of a problem.</td>
<td>This thought process was applied to the procurement processes, settings prototypes and was used by the team to ensure that the decisions made linked back to the values and principles which had been agreed upon at the beginning of implementation planning so that they would continue to guide and provoke decision making.</td>
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<tr>
<td>Problem Solving: Plan, Do, Check, Act (PDCA)</td>
<td>The PDCA cycle is a graphical and logical representation of how most individuals have already solved problems. It helps to reinforce that every activity and job is part of a process, that each stage has a customer and that the improvement cycle will send a superior product or service to the final customer.</td>
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<tr>
<td><strong>PLAN:</strong> establish a plan to achieve a goal</td>
<td>The PDCA process was embedded into the reflection at each prototyping and pitching phase within the planning. Agreed team values and principles informed the goal, and the team or sub-teams led the enactment of each plan. This was then fed back into a check/pitch/test model within larger Design process. Refinements were made to address the act phase.</td>
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<tr>
<td><strong>DO:</strong> enact the plan</td>
<td>PDCA tended to happen within sub-groups given the freedom to create solutions within their target assignment. It also tended to be employed regularly for smaller group/individual, rapid decision making processes that were not deemed a major influence on the key ILE elements. (eg. uniform, stationary, connections with local community groups for launching shared services/facilities, etc.).</td>
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<tr>
<td><strong>CHECK:</strong> measure and analyze the results</td>
<td>This is a system for identifying and solving problems to their root cause and then implementing counter measures with monitoring.</td>
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<tr>
<td><strong>ACT:</strong> implement necessary reforms if results are not as expected</td>
<td>Note: Descriptions of Lean processes are based on the Lean Institute and the Process Excellence Network</td>
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Finally, by applying these processes within the ideating and prototyping phases of the Design Process, the team worked to minimise potential weaknesses, or inflexible “problem focused” design.

The last part of the Lean process closely connected to developing the implementation plan was using the MVP process. This was identified as being used particularly in the capital and curriculum expenditure as well as in terms of how operating budgets and initial fit-out of non-furniture items were procured. Brickman describes MVP in the following;
An MVP is a process that you repeat over and over again: Identify your riskiest assumption, find the smallest possible experiment to test that assumption, and use the results of the experiment to course correct. (Brikman, 2016)

The foundation staff divided up the school and learning components and assigned them to sub-teams. They also engaged the help of their professional networks and newly connected experts to complete an MVP procurement design for their target area: the commercial food, the performing arts, the “maker” space, the visual arts, pastoral care, as examples. Procurement of resources was listed as an MVP for each area. Each team then evaluated the MVP to uncover what the riskiest possible assumptions about it were. These were shared with the associated leader of learning in charge of budgeting, and with other foundation team members not directly involved in that area’s sub-team. This was in order to bring multiple perspectives into play to help ensure that the proposed MVP was, in fact, the “smallest experiment (we) could do to test this product (concept)” (Brikman, 2016).

Once the MVP was determined for the implementation plan, a second reverse problem solving approach was used. The establishment budget set by the MOE for schools exists to support new schools to be able to cater for all areas of the New Zealand curriculum as soon as they open, rather than being in a business start-up situation whereby high quality resources for teaching and learning would take many years to procure. Such a situation would hamper the ability of the school to deliver the curriculum to a high standard. Once the team had agreed on the MVP for the plan, they also reverse engineered the concept or flipped it to use a “blue sky thinking” or “moon
shot” thinking model in order to push their ability to work with cutting edge materials across the curriculum. The team ended up having two procurement lists for each allocated area - an MVP list and a refined moonshot list that would enable the staff and learners to have access to some of the best resources the team was confident would be used purposefully for the early stages of implementation. Again, this was to avoid spending the bulk of the establishment budget on assumptions made on past teaching or school experiences, or those of other similar schools. It also meant that establishment funds could be reserved for the future, once the stakeholder needs and user experiences in the establishment phase of opening the school were analysed and applied to future rounds of MVP procurement.

**Constraints and Divergence from Processes**

The research suggested that the elements included in the Organisation Elements showed the least amount of deviation from the processes selected and implemented. It is also reasonable to suggest that this is likely due to the concrete and more linear nature of these processes, their focus on rapid prototyping and iterations, and due to the significant amount of groundwork already completed in determining the relational and learning elements of the plan. Therefore, because the influence on these areas came largely from the other elements and the process features themselves, these became enabling constraints. By having already determined tighter timeframes, principles, drivers, process features and defined outcomes to work towards, (what could be viewed as constraints), these should more accurately be labeled enabling constraints. In other words, during the work on the organisational elements, there were fewer decisions and considerations that needed to be taken into account for this part of the system as the emphasis in the planning so far had been focused on designing for the meso- and exosystem features in the
school, and this stage focused largely on the microsystem to support these and how to make the relationships and flow between each system more efficient and effective.

Another constraint and divergence that must also be highlighted was the use of the *Lean* process. *Lean* strategies and principles were developed for manufacturing, and have at times been modified more recently for use in start-up business methods. This is a particularly foreign way of thinking within much of the education sector. Specific professional learning sessions were devoted to both *Lean* and *MVP* approaches in order to better support the team’s ability to leverage the benefits of using these approaches. Although time was spent on this learning and on using and improving the processes themselves, ultimately it should be noted that some aspects of *Lean* manufacturing were not used, as the focus on material products was not a natural fit for the work being carried out. Similarly, as a group, the team was new to implementing these approaches. The data reflected their use in clear concise ways. However, the team’s proficiency at accurately assessing and carrying out this work was at an emergent level of understanding and expertise.

**Summary of Findings for the Processes and Drivers of the Organisational Elements in the plan**

Given the above set of drivers and processes, the overall approach to the organisational elements in the implementation plan were design focused, and used intentionally to create an ongoing culture of collaborative critical selection with shared criteria. Again, some of these drivers and processes are familiar within the education sector, but many are not. This means that the team developed their skills and abilities to do this on the job, and may not have executed the process features perfectly. However, the key features of the processes described were present
and it is reasonable to present them as used during the planning. The implications for other practitioners looking to adopt and adapt processes from other sectors to support development and innovation in educational contexts will be discussed as part of the critical analysis later in this research. Similarly, the implications of stakeholders in education applying other ways of thinking and working in their sector, often without expert support, will also be addressed in a critical discussion to follow. Having said that, generally speaking, it does seem that there are gains to be made exploring new approaches from other sectors. The OJC experience illustrates that there is value in seeking out tried and tested processes from other sectors to bring into and enrich educational thinking and traditional ways of working.

Another key conclusion from this area of the research is around when the organisational elements of the Plan were considered. The team took the approach that the organisational decisions should be intentional, and should support the learning and relational elements that were already determined. The organisational elements of OJC’s Plan were focused mostly on the direct environment, or the microsystem, if an ecological systems theory is applied to OJC’s ILE. These elements that make up the setting will support the learning and relational elements. As a result, the connections and interplay between the drivers and processes for the other elements and the organisational elements is likely the most significant. The organizational elements were designed very intentionally to interact and support the other elements. Similarly, the processes that were employed for these elements were, arguably, also used most intentionally. Evidence in the document analysis and questionnaire data explicitly described the use of the processes identified. For example, the collaborative processes\textsuperscript{17} used to refine and develop the detail for some of the

\textsuperscript{17} Elite circles, innovation malls, innovation communities, etc.
Learning Elements of the Plan were at times overarching processes carried out by sub-teams which then also applied the Lean, Design Thinking, and MVP processes to complete the organisational parts of the plan most closely connected to their focus area. In other words, the most significant principles of Inquiry and Visioning, that were overarching to the entire undertaking, were supported by smaller interactions of collaborative processes that then used sub-processes such as Lean in order to complete that part of the exo and meso system of the Plan. The processes associated with the organisational elements were clear, purposeful and the simplest to connect to the targeted elements and associated outcomes. However, it should also be noted that these processes could be seen to sit within larger processes, in particular some of the collaborative processes and inquiry, that was undertaken to develop learning and relational elements of the plan first.
Chapter 6: Conclusions, Discussion, Recommendations & Implications

This chapter links the findings from this research project to the literature. The findings identify the outstanding drivers and processes used to create the implementation plan for the innovative learning environment (ILE) at Ormiston Junior College (OJC). They also align the principles, drivers and processes with the key outcomes that were identified by the research and their role in the plan for the ILE. However, the findings also identify the connections and interrelated nature of the drivers, processes and outcomes as being nonlinear and complex. The different areas collide often and impact each area in different ways over time. The complexity of this developing system for the local learning community is an area that is reflected in the research and has implications for further work done by the case, and by other schools and learning communities undertaking similar work. The chapter will begin by discussing the nature of the principles, drivers, and processes that were incorporated into OJC’s way of being. A discussion of the experiences of the team and researcher will follow with implications for the personal practice of both. It will then describe the limitations of the research, and outline considerations for further research into processes and complex systems used in schools and ILEs in particular.

Principles Based Approach

One of the clearest themes emerging from the research was that the initial phase of developing the OJC ILE plan was grounded in a principles-based approach. The Merriam Webster definition of “principle” is as “a comprehensive and fundamental law, doctrine, or assumption; “rule or code of conduct” (Merriam Webster, 2017). The New Zealand Curriculum (NZC) itself is a principles-based document. These principles “embody beliefs about what is important in school curriculum - nationally and locally. They should underpin all school decision making” (NZC, 2007). Similarly, the principles of whakawahanaungatanga, visioning, and inquiry are embedded in all the drivers, processes, and the ethos of how the team worked through developing the plan. The key readings were also considered as drivers and core to the team’s work (as well as to this research). The entire team used both The Nature of Learning (2010), and Atkin’s paper, From Values and Beliefs about Learning to Principles and Practice (1996)
extensively. Both papers advocate for principles for both learning and developing learning communities. By using principles to drive focus, enable consent, and allow a team to innovate with a clear vision of the outcome in mind (but without having the constraints of following an outcomes-based design brief), the team’s collective intelligence was honoured. Each member had opportunities to contribute to developing the vision and plan for the school along the way, and, while decisions and compromises had to be made at different levels and at different times throughout the project, having a principles-based approach that the Leader of Learning (LoL) advocated for and upheld throughout planning, helped the team to connect and collaborate with some solid common ground and focus. Covey (1989), Fullan (2002), and Atkins (1996) also advocate for this type of approach to educational leadership in general, but particularly in relation to educational innovation and change.

While this study did not explore the impact of leadership approaches on the implementation plan, the LoL clearly employed this approach which in turn had a significant impact on how the work was carried out and what drivers and processes were identified in both the document analysis and questionnaire data. The data pointed to the key concepts as being central to the LoL’s approach to developing team culture and norms.

- The team had common language and understandings to work from, which supported the team in evaluating differences in values or opinions.
- Our principles acted as touchstones or a framework for operating. This included influencing the nature of conversations and collaboration, how actions were planned and undertaken, and how the team went about decision-making.

While whakawhanaungatanga, visioning, and inquiry are accounted for in every element of the ILE plan, and were advocated for by the LoL and supported by the team, no explicit directive or
intentional undertaking occurred which focused on developing the principles per se. Much time
and energy was spent on developing school values, understanding the collective approach to
school development, and coming to terms with the vision statement for the new school.
However, the three principles that are referred to time and time again were not explicitly
sought after and defined as such by the team in a concrete way. Rather, the many shared
experiences, values of the leadership and foundation team, and the focus of the initial readings
and activities slowly revealed this focus and strengthened it over time. Each individual and
event influenced the educational ecology of the school’s development and implementation. The
ongoing work that was done in order to consider the school’s micro, meso, exo, macro and
chronosystems in relation to one another for the purpose of creating the implementation plan,
meant that the principles for doing this work evolved throughout the process. In fact, although
the quest for articulating three principles of the working framework for the team was not
explicit, their development was a natural consequence of the web of connections and
influences that was created between the different entities and individuals in the school’s
ecological system. The existence of these principles became inherent to the work that was
being done even though their creation was not part of the action planning. For other schools
undertaking this sort of work, it is well worth noting that this development was potentially a
happy accident, and that the data pointing to these three principles as being significant, means
that initiating a similar process to intentionally articulate principles for working together is
important work and is well worth undertaking. The grounding of the planning work and how we
pieced together the significant drivers for our local context, was interconnected by these three
principles. They helped to make the focus of the team congruent, and appeared to give the
team some form of solid ground to stand on while making the actual plans for the school.
Whether or not this happens for all schools undertaking similar work is impossible to say. For us, it is entirely possible that without these threads emerging over and over again, the end result of the plan may have looked much different and is is not a stretch to hypothesize that the experiences of the team would likely have been vastly different as well.

**Drivers and Processes**

There has been exponential growth in the amount of educational literature and research that is now available to guide the development of both new and existing schools. How a learning community undertakes the job of selecting those resources that they will “hang their hat” on and incorporate into their vision will greatly influence the shared understandings and development of the planning. A significant observation of this case study suggests that ensuring that there are events and processes in place for identifying and embedding a shared understanding of key drivers is a fundamental activity. Supporting our shared understanding were four key readings that appeared in both the document analysis data and stakeholder questionnaire data:

- *The Nature of Learning* (OECD, 2010),
- *From Values and Beliefs about Learning to Principles and Practice* (Atkins, 1996),
- *The New Zealand Curriculum Document* (MOE, 2007),
- *Key Competencies for the Future* (Hipkins, Bolstad, Boyd, McDowell, 2014).

There is no question that these texts were pivotal drivers for the development of the plan. Key ideas from these readings were posted around the workroom, scribbled in notebooks, quoted in conversations, used as working activities (including all of Atkin’s recommended shared
activities), part of the staff book club, and were referenced in prototypes and final planning documents.

Many other influences were also pivotal to the team’s work. These included shared experiences (most notably the LoL research trip and other school visits overseas and in New Zealand), the staff retreat, the Education Board of Trustees’ (EBoT) approach, and the local community of practice around the case study school, including the feeder and transition schools. The focus on collective sense-making as being crucial in order to develop a collaborative approach to creating a viable implementation plan, and the ability of the staff to pinpoint the same key experiences and influences, is noteworthy in this research. Based on the wide range of experiences of the staff (from different sectors, skill sets, qualification types, and previous school contexts), it can be assumed that, had the staff not undertaken the work of identifying driving models and research and instead moved straight into undertaking processes to create the implementation plan, there would have been a strong potential for many misunderstandings, assumed intentions, misalignment of values, and multiple interpretations taking place - all while trying to collaborate in creating a shared goal of a workable school implementation plan. This is not to say that there were no conflicts, differing opinions, multiple perspectives, or compromises along the way. However, by working through making some of the drivers for the school’s visioning explicit, a more robust trajectory for the direction of the plan could be set, and assumptions or multiple perspectives considered as part of the process, rather than as barriers or blocks towards developing consensus.
Again, it is worth noting that not all drivers were mentioned by each team member. For example, drivers that influenced decisions around technology and its implementation were mentioned by very few team members and only by those directly involved in the *Elite Circle* style of collaboration. Conversely, drivers that influenced the cultural narrative in the school and its place in the implementation plan were also not identified specifically by many staff, but appeared in multiple documents in the analysis, including shared experiences, expert visits, and in the finished implementation plan itself. In this way, it is suggested that making all drivers more explicit and incorporating a process for this with a team undertaking similar work, is likely a useful recommendation and may help to avoid any potential confusion while also helping to solidify further elements of the intended culture and direction-setting for the group.

The interplay between the drivers and processes is another aspect of this research that suggests that schools embarking on similar work may benefit from undertaking an ecological systems thinking approach. Schools are complex organisations. While there is an increasing focus on the impact of educational leadership on the functioning and outcomes of schools, the data from this study may indicate that organisational studies and systems thinking frameworks, and how they might apply to developing viable implementation plans in complex school systems and structures, are an areas that could be well worth exploring further. Further to that, this research would seem to indicate that undertaking this work internally as a practitioner researcher or having an external researcher undertake similar work from an ecological perspective could be extremely useful for future learning communities. When it came to aligning drivers with processes, the web of relationships and flow of energy or impacts became incredibly complex. In fact, this undertaking was so complex, it became apparent very early on in the research that
presenting definitive links between drivers, processes and the outcomes that resulted could not be done without acknowledging that any representation of the data as being a straightforward matrix of causes, actions and effects would be oversimplifying the case.\(^{18}\)

As schools begin to embrace a more connectivist approach, to work more closely with the wider community to network and leverage expertise and collective intelligence, and to localise the learning and organisation for the specific community context it is serving, a wider range of processes for thinking and decision-making are increasingly being found in New Zealand schools. This case alone drew processes from its own sector, business models, technology development, kaupapa and tikanga of the Tangata Whenua, social enterprise, and design.\(^{19}\)

Processes that the educators used were not always from their realm of experience or background, and this could be seen if a comparative evaluation of processes were undertaken. While there is no scope to deny that all the processes included in the findings were undertaken, it is crucial that it is made very clear that their inclusion in the research findings is not an attestation to their use at an expert level - only that they were incorporated at some point in the development of the plan.

As schools begin to work with outside sectors more often, or search for and trial ways of working (eg: processes and systems) that are used in sectors that are more accustomed to

\(^{18}\) In fact, it was due to this complexity that both table, narrative vignette and visual display were chosen as a three-part method for sharing the research in the hope that it more accurately reflected the findings while still being of use to future learning communities and researchers.

\(^{19}\) It should be said that the disruptive influence of The Mindlab to the education sector, and this new postgraduate qualification pathway for teachers was a huge influence in terms of the processes that were explored by the team. Three of the foundation team had completed this programme, and all noted that they would not have been familiar with many of the attempted processes used had they not have undertaken that specific programme.
developing cultures of innovation, disruption, and evolution, the education community may well need to explore the ways it works, rather than just aiming for new outcomes, in order to truly reform or reinvent schools for their communities. By working with a wider range of processes, it is possible that innovations, rather than just repetitions, may be made possible. These processes in turn, may also start to shift cultures that have pervaded school organisations since the beginning of organised educational models. At this point, and based on this case study, it is impossible to tell which of these processes are most worth working with further or should be recommended for adoption by the wider community of practice. However, further development of how schools and educators are applying cross-discipline approaches and for what outcomes and effects, is certainly worth investigating in the future. Often, it seems, that when teachers and schools undertake planning and development work, a pre-supposed outcome becomes the default model for the work. By thinking more intentionally about which processes to use to achieve a plan, and the reasons for undertaking particular processes, the education community may find new and different ways of innovating, improving and talking about our practice. This may include a focus on the ways of working, rather than only the outcomes we would like to achieve. Similarly, for both the case and other educators looking to incorporate other perspectives and ways of working into their daily practice, there also seems to be a developing interest and need for other processes and systems to be made more readily available and taught to professionals working in the education sector.

Limitations
The limitations of this research have been both alluded to and stated in context throughout the findings sections. However, there are some specific limitations that must be mentioned explicitly. These include:

- The limitations associated with undertaking a case study, and specifically practitioner research;
- the nature of the sample size;
- The non-evaluative aspect of the research;
- the limitations of the nature of the data collection methods used in the research, and
- the limitations of the available stakeholder data, specifically data related to the MOE and EBoT as stakeholders and the drivers and processes involved before the foundation team began its work.

As stated, this research is a case study. By its nature, it is intended to reflect the situation of a specific case in time and space. This method was selected in order to better present the idiosyncrasies of the case’s context, systems, and community. This methodology revolves around the researcher’s focus on understanding the nature and specifics of the case itself. Because of this focus, the applications of the findings or recommendations are specific to the people and places involved in this case. It is not intended as a blueprint for how all schools should undertake similar work. The research is also non-evaluative, and should not be read as such. It is not a reflection or recommendation that the processes undertaken are the best way to go about developing a school implementation plan as the research did not cover any data collection post implementation. It is a narrative of the journey of OJC and how the ILE plan came about, and should be read as such.
In addition, it should also be repeated that my perspective is that of participant researcher. While the I did not complete the stakeholder questionnaire in order to avoid bias, the researcher’s perspective is from that of an insider. In many ways, this was an advantage which will be further explored in the recommendations and implications for further research section below. However there are limitations to participant or insider research which should be outlined. These include obvious ethical considerations that needed to be mitigated through the methods used. Bias and possible coercion were two of the most significant ethical considerations that had to be addressed rigorously. Similarly, because of these potential complications, the gravitas placed on participant research as being valid or of value to the sector is also a possible limitation. While an outsider may have been able to more easily mitigate these ethical risks and potentially include different rich data collection methods more easily, the ability of an outsider researcher to navigate the archives of an organisation and its working documents would be limited. A further limitation to the insider nature of the researcher may also be that inferences made about the data collected may have been based on knowledge or recollection of the context of the work. While this may also be another difficult ethical journey to navigate, it is argued that this knowledge makes participant research particularly valuable in this context. From either perspective, however, it is important to acknowledge this perspective as a consideration for the reader.

Another limitation of the research is the relatively small sample size and time period covered by the case study. The sample size included all of the foundation staff members who contributed to the plan and the public and private documents associated with the planning. This
is a total of fourteen participants, which is a relatively small sample size, but a participation rate of 100%. However, there are arguably two key stakeholders missing from research. The EBoT and MOE stakeholders responsible for the initial direction setting and architectural planning were not available to participate in the research. Therefore, this research is specific to the time period beginning with the hiring of the LoI and the EBoT’s creation of the vision statement, hiring process and policy documents (roughly mid-year 2015), and finishes with the pre-opening implementation plans and documents of the school (January, 2017).

Finally, another limitation of the work is that it is not an evaluative piece. To reiterate, the research is intended to cover the drivers and processes used in the development of the OJC plan. It does not include an evaluative perspective on how the implementation plan became operational and the outcomes for the learning community based on the operationalisation of the plan.

**Recommendations and Implications for Practice and Further Research**

The nature of this case study in relation to its immediate and wider community of practice means that there are implications and recommendations for the following:

- The researcher as both practitioner and researcher;
- the local context and community of practice involved directly with the school, namely learners, staff, families of learners, board of trustees, and other community members;
- other schools undertaking similar work, and
- other education researchers.
Implications and Recommendations for my Personal Professional Practice

In my own practice as an educator and leader, there are several implications and recommendations that I will incorporate into my practice as I move forward. The first are around my role in the case school. As an educator new to senior leadership and working with multiple teams on multiple levels within my school and learning community, the ecological systems thinking perspective is one that I will now bring to my awareness when undertaking further work for my school. Included in my day-to-day practice, part of my role is to analyse and interpret achievement data, lead collaboration and development teams in designing curriculum programmes of learning and their desired targets and outcomes, identifying and implementing professional development in relation to school goals and values, and maintaining my own professional development and learning. In this work there are a number of key learnings for me as a result of this research project.

Because of the process undertaken to complete the requirements for a master’s thesis, I am now more familiar with the implications and effects of research methodology and methods, how they might influence the data we collect as a school, and how they may influence our interpretations of the outcomes. By having a better working understanding of this, I will be able to better consider day-to-day data collection and analysis, and bring my new learning about how to find appropriate and robust research-based approaches into the regular running, practices, and self-review processes of this school and other future workplaces. This will help
both me and my team and community of practice to set better goals, and dig deeper into our own practices in order to continue to improve and grow.

Similarly, because of the nature of this research, my insights into how schools might go about understanding themselves and their own contexts has grown exponentially. In particular, my personal experience and understanding of the following key ideas explored in the literature review and throughout the research will help me to gain insights and have more informed perspectives on my current community of practice and any future school communities I may work with.

- It has provided me with a more in-depth, research-based and practical knowledge of the components and elements that make up an ILE, how schools go about working with these components, and how they might be planned for and implemented.
- I have a deeper understanding of how schools can work through a localisation process and ensure that their intended plans and outcomes are meeting the needs and contextual reference points of their local community.
- I have an emerging knowledge base and ability to use an ecological systems thinking approach to working in a school as a complex organisation (This research in particular has helped me to understand and unpack the different components of my current education setting and to begin to observe from this perspective how the different parts, individuals, and influences are messy, not simple and how their interplay and interconnectedness influence all workings - planned and otherwise - of the school community).
I have a more intentional approach to articulating and making explicit the drivers and processes that affect and are used to create educational change. Though the research was case-specific, it is arguable that many of the drivers, or similar influences, are at play for many other schools. How schools, and how I as an individual practitioner intentionally, or unintentionally, use the ecology of the school to manage and develop changes or innovations may be of particular use to the sector. It has the potential to positively influence how we go about making decisions that will support how these plans are localised in our communities and how we consider the different components of the layers of each school’s unique ecological system.

my knowledge of the processes we used in particular has grown. By investigating my colleagues’ responses and working documents, a number of processes that were new to me appeared through the research analysis. This has enhanced my understanding of the variety of processes that people use in order to create plans in a range of contexts. The research also highlighted to me the many variable approaches that are used, often by default or not explicitly, and this has emphasized the power of using a broader range of processes at a high level in order to innovate for education effectively.

These learnings have the potential to significantly impact my work in the short-, mid- and long-term, and are likely to very closely inform any potential further research work in the future. As I develop both my leadership and research skills, the learning about processes, localisation, and systems thinking will certainly be contributing factors in how I approach planning, and how I leverage these processes in the future. They will also impact how I lead, consider data, and make decisions about which projects and outcomes to pursue.
Immediate Community of Practice

This research narrates the development of the OJC implementation plan. It provides insights into how the initial plan for the school was developed, the key drivers, and how the different parts of the plan were created. As a case study, this narrative is valuable to our school and future stakeholders as a document that outlines the influences on our school and how they were considered. It may also help to articulate what learnings might be drawn upon from this stage in the school’s life in order to evaluate our operationalisation and outcomes in order to inform future self-review, development and progress. For new staff, learners, board members, and families arriving to our school, this research may help them to understand the nature of how we went about making the decisions we did about our implementation plan, and the nature of carrying out new school development work. By communicating in such a detailed and explicit form, we provide for our community the opportunity to have more information about how the school works, what the organisation values are, and what we hope to achieve. This in turn could potentially have significant impact on our community’s ability to support us, critique our work effectively, and help us to review and develop our approaches in a way that is appropriate to the local context and that considers the complex nature of the school ecology.

The recommendation for this particular aspect of the community of practice is that the research is made available in full for all community members and stakeholders interested in the in depth analysis. In particular, the research will be made available to the staff and board of trustees in a more formal presentation. Finally, in order for the learner and family members of our community to be impacted at all by the research, it is recommended that the research is
condensed into a more informal series of resources that are available and referred to for our community and new families and learners to the school in the near future. By making the research available widely to the community in a digestible format or formats, it is hoped that further dialogue and common ground can be determined by all community members and that we work together to further the developments of the school with mutual relationships, visions and processes.

Implications and Recommendations for the Wider Community of Practice

As mentioned in Chapter Two, the wider community of practice in New Zealand has seen a number of new school being built due to both population growth and natural disasters. In addition, many existing schools have focused on leading their learning communities towards the elements associated with ILEs both in terms of having access to new-build-funding to support contemporary pedagogy and in terms of rethinking the pedagogies and practices that make up an ILE. As local research and literature grow, so do media critiques and social dialogue. Much of this growing body of research focuses on the physical space changes in the ILEs, working with teachers and leadership, or some of the practices associated with ILEs. However, currently few case studies exist that focus on the processes schools use to address the challenge of defining themselves as an ILE, how they localise and determine what is important to their community, and the complex interplay between all of these elements. By adding another perspective to the existing body of research that specifically aims to unpack how one school went about this process, the implication for other schools and communities is that a model is available to access that outlines how one school community went about this undertaking. It very intentionally does not offer outcomes, solutions or evaluations of one component of an ILE, but rather, embraces
the nature of the ILE as a complex ecosystem. This research is intended to influence the wider community of practice by demonstrating the importance of narrating the entire complexity associated with a case and ILE development, and to offer ideas for how others might go about this work. The very nature of ILE development is that it takes into account the complex nature of all of the relevant elements, and ensures that the needs of the community are met in order to best innovate for learning (OECD, 2015). The recommendations for the wider community of practice engaging with this research are to identify the drivers and needs in their own local community and undertake principles based work, and based on this understanding, intentionally select processes that fit the principles, community and drivers identified as opposed to pre-determining practices and outcomes without examining the richness of the local ecology for which they are planning.

**Professional Reflection: Lessons Learned**

Now that the school has become operational, lessons have been learned as a result of the way in which the team worked in the planning phase. These include the power of intentionality, working with multi and transdisciplinary lenses, developing mastery in unfamiliar strategies and processes, and making *ways of working* explicit in order to maximise desired outcomes, or pivot when needed.

As previously mentioned in the findings chapter, the team did not always intentionally identify and work through processes. A particular example of this is the types of collaborative approaches that were used. In these collaborative phases of work and processing, the team was often fluid, and identified norms and collaborative approaches that seemed to best fit at that
time. When interpreting the documents and participant response, it became very clear that there were distinct features to the different collaborative approaches used and these approached were articulated in different theories around organisational collaborative process theories. However, it should be made clear that at the time of this work, the team was not referring specifically to innovation malls or elite teams as the articulated approach specifically. This means that the fluidity of our work allowed the team to work through and determine their perceived best approach for a given task, but it also meant that we may have been able to work even better if we all had an explicit understanding of the norms each approach employs, had articulated the approach and its selection and reason for application intentionally, and therefore may have been able to work even more effectively for the desired outcomes. Similarly, other processes were articulated intentionally, but the varying degree of mastery on the team indicates that more gains may have been made had more time been spent on a higher level of mastery and shared understanding of the processes used, in order to work together more effectively and apply strategies more specifically. However, the experimentation and exploration of different sectors’ ways of working, was, overall, a very rewarding and productive approach - particularly when considering the task of developing an ILE. There is a wealth of literature which highlights the challenges teachers face when collaborating, and many recommendations about how setting norms and shared understandings is a key skill and process that is fundamental to collaborative work. Social and collaborative norms were and are a significant ongoing focus in all the work we have been doing. In addition, having norms based on processes and drivers clearly articulated was an aspect of our work that was done well enough at times to now know that it was important to successful outcomes and feelings of value and achievement. Articulating these norms for each project and situation is also an area that could be developed further in the future
in order to continue to leverage the learnings and successes and continue to develop as a successful organisation.

Using LEAN and MVP meant that the first year budget and expenditure approach saw the school spending much less than what we would have, had we not used these approaches. It informed our spending and material use flexibly so that we could funnel capital and resources into more important areas as the school evolved over the year leading into the second year of operations. We now have a much clearer picture about how our implementation plan functions, and so, can set more targeted and effective budgets for the second year of operations. It has also meant that the school still has a very healthy foundation capital expenditure budget left, which will both increase with interest, and last well into the following years. Similarly, the design thinking approach to space use and curriculum design has meant that an iterative culture and mindset is noticeable in the staff and learners. Outside guests often notice the problem-solving and ideation approach and even informal conversations around the school are design-focused, and the staff have also articulated their comfort level with the iterative processes we have used and continue to use throughout the first year. Rather than constantly feeling as though they are having to cope with an increasing load of complexity and instability, staff feedback in the school self-review process indicates that while this is the case, they are also empowered to contribute to and collaborate in the design of effective solutions or better inform the next steps that target both the organisational desired outcomes and identified stakeholder needs.

Finally, how the team went about the driver identification, visioning process, and adopting inquiry principles that supported the development of the learning outcomes for the ILE
were key and of note to the outcomes of this part of the plan. The drivers, including contemporary research and the literature that was selected to inform the team’s thinking, must also be mentioned as being pivotal in the decisions that were made. Over the first year of operations, implementing the new pedagogies and practices has been some of our most challenging work as a team in terms of making the plan operational. However, although learning new ways to approach teaching and learning has involved a high level of cognitive and emotional challenge for the team, having the common ground of principles and texts as the foundation for our current work has helped the team to identify areas that needed development, and drive the school and personal professional learning towards constantly improving practices and outcomes.

Some of the data that supports this evolution and the articulation of drivers and principles for ongoing improvements can be found in comparing our most recent student voice data and their experiences of the learning approaches and shifts so far this year, in the professional development feedback and requests by the team for the year, and in both standardised national, and internal school assessment data and achievement results. The effect size of the curriculum approaches to numeracy and literacy are particularly exciting, as is the rate of accelerated progress across demographics at the school. The school approach to digital badged narrative assessment is another testament to both the teachers’ and learners’ growing proficiency with both the assessment style and model, and the learning which is curated within. Noticeable shifts in learning talk, curating evidence of learning, and approaches to self-, peer-, and teacher-led assessment as learning can be seen in the development of these stories throughout the year. The team is currently working with the MOE on exploring this approach as a case study on graduate profiling with using digital badging as a national exemplar, and another member of staff will be
investigating its impact and recommendations for future development in master’s research in 2018.

The Importance of Spending all your Time on Relationships

The last, and perhaps most important, professional reflection around this research is on how the focus on *whakawhanaungatanga* and relationship-building was at the heart of all the work that was done, and is still done, by the school. There were times during the planning phase that different members of the team, and even the wider professional community, questioned the amount of time that was spent on team-building, professional experiences, retreat time, shared meals, and “fun”. As a team member and in a senior leadership role, I felt this disquiet myself at times. The niggling feeling that we should possibly be spending more time on actual planning and administration arose and fell regularly for both me and other members of the team. However, this was a key focus for the Lol, and he made this value explicit and it reflected the principles that we had all agreed would underpin the work we were doing. It must be said that, in the end, this was absolutely the right decision to make for our team and work. All staff without exception agree on this now. The strong relationships among members of the team have made it possible to support one another through professional and personal challenges we have faced over the creation of the plan and over this year of operationalisation. This would not have been so possible had the time not been spent on developing professional relationships and trust. A culture was set through hotdogs, beer, mini-golf, and camping that would support the team working through the challenges of collaboration, addressing successes and failures, and constant reiterations and ongoing improvements. The culture of the school in the first year has been about relationships first and adapting our practices and agendas as much as possible to
acknowledge that. A significant learning has been that without the staff and learners’ wellbeing at heart, no amount of cognitive work or planning and implementation can be achieved successfully. This includes standardised data, operational and legal obligations, and innovating and evolving our skills, knowledge and approach to address the elements of our complex educational ecology. It does not mean that it is always smooth sailing, but does mean that at the end of the day, the principles and processes used to maintain whakawhanaungatanga are crucial to the success and continued development of all the elements of our ILE. For me, in my role as a practitioner and new leader, this is not something that I naturally would have spent so much time on. In fact, I would not have naturally spent time investigating the benefits of taking this approach to new school development. The experience and knowledge of the rest of the leadership team, and in particular the leader of learning, really put us in this position, and my practice and approach as a leader and teacher will forever be changed by this experience from both a team member and researcher perspective.

**Implications for Further Research**

Based on the outcomes of this research, a number of implications for further investigation exist.

- There is a need for further development of formal case study research in New Zealand to add richness and multiple perspectives to this community of practice’s collective body of knowledge.
- There is a need for the body of research around ILE development in New Zealand to focus on the complexity and educational ecology of how schools develop and innovate
themselves as organisations. There are many lessons to be learned from schools’ perspectives and experiences that would contribute to a developing picture of what strategies have been used for this work.

- Partnerships between insider or practitioner research and outsider expert research needs to be advocated for and implemented more frequently in order to begin to bridge the gaps between theory and practice within the education sector.

- Ecological systems thinking and organisational studies and research are critical and noticeable gaps in the existing literature which explores the factors that make ILE development and execution successful or unsuccessful.

When preparing to undertake this research, it became apparent very quickly that very few case studies of New Zealand schools as organisations or complex systems exist. Similarly, no formal case studies of schools implementing or planning for ILE operation could be found. This lack of research includes operational studies, evaluative studies, and research on the processes and drivers that schools use to inform their operationalisation. The reasons for this are likely complex. They may include the lack of educational researchers in New Zealand who are connected directly to schools and have strong enough relationships to accurately carry out case study research. There are also complexities in the perceptions of competition and sharing knowledge in a sector that has become highly competitive. In other words, research carried out as a case study on a given school may be perceived as potentially sharing insider secrets that will result in a school losing its perceived “edge” over its competition. There is also the potential for schools to feel under pressure or under a microscope if they are involved in detailed research about their operations which may expose them to critique or be compelled to publicise flaws.
Finally, other considerations include schools’ lack of access to formal researchers. The lack of a designated research and development role within schools also means that regular and ongoing research is not likely a funded area within schools as of yet. However, the richness of the learning from CERI’s multi-case study approach to unpacking localised ILE implementation in a variety of countries and contexts, was an invaluable addition to the global body of research in this field. It follows that removing the barriers to completing this type of case study research should become a consideration within New Zealand in order to support the informed sharing of practices and approaches to support one another across the field. Case studies carried out on New Zealand schools undertaking major change processes are needed. These will reflect the complex and localised nature of change for schools. How New Zealand schools are approaching the development of ILEs is arguably one of the most significant implications of this study.

A related implication for educational research in New Zealand is that the body of research around ILEs that deals with the complexity of schools, rather than multi-school studies of limited perspectives on ILE elements, is also needed. This is needed as both multi-case study comparisons and narratives, and also in the form of evaluative research which investigates the outcomes of different drivers, processes, and outcomes that are planned into ILEs in New Zealand. This could potentially better inform schools as they undertake this work and allow them to self-identify similarities and differences between communities and their needs, which would in turn support how school communities work together to localise the learning for their distinct contexts. Sharing knowledge in education is not rare. However, having a research-based approach and in-depth understanding of the commonalities and methods used in order to inform the interpretation of information for the community of practice could potentially drive higher-
quality practice in terms of implementation and operationalisation that is not currently in existence in the sector.

The strength of practitioner or insider research in unpacking how schools do what they do and why, while working alongside an expert outsider (in this case, the researcher’s advisors) is particularly clear. Arguably the gaps between research and practice in education are wide, and while inquiry and action research are making their way into daily teacher practice more and more, these “in practice” inquiries are also not often informed by a research-based outsider. The experience of being an on-site researcher working alongside an expert outsider was particularly valuable for this work. As the insider researcher, I was able to more easily navigate the complexities and nuances of the shared language, filing systems, and documents available for the research. However, without the help of an outsider expert, there was much this research would have missed or misinterpreted. Based on this experience, and the notion of growing connectivist approaches as schools work into the future, an implication for both future research as well as future practitioners is that the partnerships between schools or cases with insider researchers supported by outsider experts is particularly valuable, and has the potential to begin to bridge some of the gaps between research and applied practice.

Another result of this study is that there is a noticeable gap in the research on ecological systems thinking and organisational research within the education community. While these are areas that are beginning to be explored, the main focus in educational research is on either specific practices and interventions (that may or may not necessarily be transferable into different educational settings and contexts), and a major focus on the leadership element in
organisational studies in education. New Zealand schools, by and large, are in the top 7% of large organisations in this country. However, applied organisational research in education is limited largely to the impact of leadership on organisations. When completing the review of literature for this research, the notion of a large and complex educational organisation functioning as an ecological system did not come up in any of the New Zealand literature. Schools interact regularly with their own governance, communities, families, media, and wider sector on a near daily basis, as well as their inner systems and organisms and groupings. This arguably makes schools one of the most complex organisations in New Zealand and fits closely with the potentially useful approach of employing ecological systems thinking and organisational studies and research to how New Zealand schools function. In fact, the nature of localising schools or ILEs for different settings in New Zealand means that the diverse nature of the country, and the many communities within it, make schools so complex and unique, that this particular approach to investigating schools and how they go about their work could be a potentially ground-breaking approach to supporting how schools innovate. It could help them serve their local communities better and with more intentionality and understanding of the different influences and interactions that take place in each unique setting. When school communities can understand and articulate the complex systems and influences within their own ecologies, and make intentional decisions about the processes and strategies they will use to achieve their mission, the organisation and people within it are empowered to design for well articulated outcomes and solutions to the challenges they face. They are also able to personalise their design for the local context and begin to apply an innovator’s mindset to addressing pressures on their operations including complex relationships, and changes in their communities, the changing nature of knowledge itself, global trends and issues, and evolving contemporary research in education. In
the same way that biological evolution is driven by the principles of adaptations to environmental conditions, school systems that function as complex ecosystems and organisms must also “continually evolve(s) to regulate growth, increase diversity and complexity, and enhance its own resilience, adaptability, and sustainability”(Ahearn, Evers, Saltiel, and Uhl, 2017) in order to thrive and best ensure their communities flourish. Developing a body of literature that explores this learning has the potential for innumerable benefits for the country and its educators and education systems.

Summary

The range of formal research and, in particular, case studies on New Zealand’s experiences of ILE implementation is limited. Furthermore, the input of practitioner research into this field, the influence of how schools are localised in their communities, and the examination of the complex educational ecology that make up ILEs are also missing from the rapidly evolving educational landscape in school development in New Zealand. The results of this research point towards the usefulness of considering these elements in the further pursuit and application of ILE development. The OECD’s *Handbook for Innovative Learning Environments* (2017) also advocates for including a learning principle based approach that articulates the complexity between the entities that make up each school’s context and systems. By taking this approach and beginning to articulate and understand the different entities interacting and influencing schools, a more networked and connected approach to planning and development can be designed to best fit each school’s situation.
Finally, this research has illustrated the value of insider researcher alongside outsider expertise in this field and in the area of educational innovation and ILE development in particular. It also points to the value of seeking a wider variety of organisational studies and pulling from other perspectives of other disciplines as being useful in understanding the drivers and processes that are available to support innovation in school development and planning.
References


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doi:10.1111/j.1467-9752.2008.00641.x


"What is an Innovative Learning Environment?" 25 OECD ILE project collaborators share their thoughts. (2014, September 26). Retrieved from https://www.youtube.com/watch?v=s5CY72nRSMo
**Glossary and Abbreviations**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Agile Methodology</td>
<td>Agile is a set of iterative project development strategies originally designed for software development, but is now increasingly applied in a variety of sectors including business and education.</td>
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<tr>
<td>Consortium Collaboration</td>
<td>Consortium collaboration is when an assortment of organisations and/or entities are interconnected and collaborative on a common project.</td>
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<tr>
<td>Design Thinking</td>
<td>Design thinking is a method used to solve or address complex problems. Design thinking employs a range of cognitive strategies including; imagination, intuition, data collection, systems thinking, and logic to explore multiple ways of approaching complex issues, and then determining which solution is the best possible fit in context.</td>
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<tr>
<td>Diagrammatic Model</td>
<td>A visual representation of a concept or plan. eg: A 3D blueprint of plans for a new school or learning space with the intended useage or design features</td>
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<td>Drivers</td>
<td>A catalyst which causes a particular outcome or sequence of events to happen.</td>
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<tr>
<td>EBoT</td>
<td>The establishment board of trustees. For the purposes of this paper, an EBoT for a New School in New Zealand is made up of Ministry Appointed representatives.</td>
</tr>
<tr>
<td>Elite Circles</td>
<td>Elite circle collaboration is when a select group of individuals are given the task of collaborating on a particular project.</td>
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<tr>
<td>Embodied Cognition</td>
<td>An emerging theory that asserts that many elements of cognition are influenced or even created by the holistic experience and sensory input of the body.</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>FLS</td>
<td>Flexible Learning Space: A flexible learning space is made up of physical materials and components that can be used for multiple purposes, re-configured, and shifted.</td>
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<tr>
<td>ILE</td>
<td>Innovative Learning Environment: The relational, learning, and organisational elements in learning environment</td>
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<tr>
<td>Innovation Community</td>
<td>An innovation community is a type of collaboration in which anyone in the community is able to propose problems or projects, and the solutions, as well as which ones to use.</td>
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<tr>
<td>Innovation Mall</td>
<td>An innovation mall is a collaborative strategy where a company can post problems which need to be solved and anyone in the organisation is invited to contribute solutions that may fit.</td>
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<td>Lol</td>
<td>Leader of Learning: The Flat Bush Schools built after 2012 have designated the primary leadership role in the schools as Leader of Learning, an evolution of the role of principal.</td>
</tr>
<tr>
<td>LMS</td>
<td>Learning Management System: For the purposes of this paper, a learning management system is any digital format that is used to manage student learning and materials. For example, google classroom, moodle, seesaw, etc.</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education: For the purposes of this paper, this referees to the New Zealand Ministry of Education</td>
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<tr>
<td>NEGS</td>
<td>National Education Guidelines</td>
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<tr>
<td>NAGS</td>
<td>National Administrative Guidelines</td>
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<td>Acronym</td>
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<td>OJC</td>
<td>Ormiston Junior College: A year 7-10 middle school in Flat Bush, Auckland, New Zealand</td>
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<tr>
<td>OPLS</td>
<td>Open Plan Learning Space: A learning space or school that is designed with an open plan, and minimal walls or barriers.</td>
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<td>Process</td>
<td>A process is a series of actions, strategies, or ways of working that is used in order to achieve a particular outcome or result.</td>
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<td>SAMR</td>
<td>The SAMR acronym stands <em>substitution, augmentation, modification, and redefinition</em>. It is a model for approaching technology infusion in teaching and learning.</td>
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<tr>
<td>SMS</td>
<td>Student Management System: In New Zealand, student management systems are digital hosts for all personal information data about students. They must be government approved to achieve this status.</td>
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<tr>
<td>TPack</td>
<td>The TPack acronym stands for <em>technological pedagogical content knowledge</em> and is a framework to support educationalists to understand for understanding how to approach technology integration.</td>
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Appendices

Appendix A Supplementary Process Material and Information

Appendix A1

Overview of Hermann Brain Dominance Tool preference quadrants. (Hermann Brain, 2011)
Atkin’s concentric circles of how values and belief affect principles and practices became the core of how the team approached articulating educational common ground. (Atkin, 1996)
Appendix A3

The *Spirals of Inquiry* model. (Timperly, Kaser, and Halbet, 2003, p.5)
Ideo’s visual representation of the Design Thinking Process is one of the models used by the team.
(Ideo Creative Commons Image of the Design Thinking Process)
Stanford d.school Design Thinking Process

Stanford d.school visual representation of the Design Thinking Process is another of the models used by the team. (Stanford d.school Creative Commons Image of the Design Thinking Process)
Overview of the collaborative processes and features as identified as used by the team. (Pisano and Verganti, 2008)
Advantages, challenges and enablers in the collaborative processes and features as identified as used by the team. (Pisano and Verganti, 2008)
Appendix B Samples of Activities and Processes carried out by the team

Appendix B1

Image of some of the team’s work on comparing personal experiences, perspectives, and values in education
The OJC team listen to some personal storytelling in the workroom
An OJC team version of the Atkins concentric circles for values and belief to principles and practices was posted on the wall in the workroom, and was used interactively throughout the entire year. (Atkin, 1996)
An OJC team version of the Atkins concentric circles for values and belief to principles and practices was posted on the wall in the workroom, and was used interactively throughout the entire year. (Atkin, 1996)
An image of another of the workroom walls. This area was used for visual storytelling, using guided imagery and photolangage to help build the team’s knowledge and understanding of one another.
Samples of using photolanguage for whakawhanaungatanga included team members creating digital korowai and sharing their stories in visual and verbal storytelling.
Appendix B7

Image of the Lol team on the largest shared learning quest, a tour of several innovative schools in North America and all the shared experiences that came along with that.

Appendix B8

Overview of some of the key project boards, kanban, and sprint cycles the team used.
Partial image of the overall scrum set-up for the week in the first 6 months.
Appendix B10

This set of images reflects the work that was done using Featherston’s Inside/Out Design Process to develop thinking around the purposeful use of space. (Featherston, 2005)
Speed Dating, an example of daily whakawhanaungatanga, and reflection as part of our collective inquiries and collaboration.
Image of some of the first community consultation data and information collected.
Digital consultation was also carried out in order to better cater for our communities needs and availability.
One of the early community consultation evenings held at a neighbouring local school.
Series of images depicting some of the collaborative work on the OJC *We Believes*
Appendix C Samples of Elements of Outcomes of the Implementation Plan

Appendix C1

We Believe...

1. We believe all learners have an innate curiosity to make sense of the world they live in.
2. We value & believe in authentic & real world learning.
3. We value & believe in learning to learn.
4. We believe in kaitiakitanga: "what do we do when no one else is looking."
5. We believe in equity & value diversity in our community of learners.
6. We believe student agency prepares lifelong learners.
7. We believe in provocation, taking risks, & celebrating the zest in learning.
8. We believe in celebrating excellence - ‘finding the genius in everyone’
9. We believe in the possibility of exceeding expectations/aspirations
10. We believe that success is personalised & growth is integral to excellence.
11. We value whanaungatanga and believe relationships underpin all learning.
12. We believe in a collective responsibility for whakawhanaungatanga through the actions we take.
13. We believe in the wellbeing of all learners & the environments that foster this.

or do we?

The final OJC We Believes principles.
Full name of author: Katharine Brown

ORCID number (Optional): ..........................................................

Full title of thesis/dissertation/research project ('the work'):
Disruptive Evolution
A Case Study of how One School Develops its Innovative Learning Environment

Practice Pathway: Master of Applied Practice
Degree: Master of Applied Practice
Year of presentation: 2017

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is submitted in partial fulfillment for the requirements for the Unitec degree of Master of Applied Practice

Principal Supervisor: Hayo Rinders

Associate Supervisor/s: Jamie Mannion

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