

**Time to learn: The influence of Innovative Learning
Environments on school organisational practices in a secondary
school context**

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Abstract

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Educational futures discourse challenges the rigid organisational structures of traditional schooling models. Traditionally, time within schools is maintained and distributed through western approaches to administration and organisation, which are socially and culturally produced and often deeply ingrained in practice. The move towards Innovative Learning Environments is intended to support approaches that will provide students with broader access to individualised learning opportunities and relevant twenty-first century skills. Schools looking to implement innovative approaches to learning as part of the ILE implementation process have the opportunity to develop alternate organisational practices, particularly around time allocation. By gathering qualitative data from senior leaders, teachers and students at two New Zealand secondary schools implementing alternative organisational approaches, this study explores the relationships between organisational practices, pedagogy and learning environments, whilst critically examining the underlying priorities and values these altered systems imply. Foundational to this research is a critical theory perspective, underpinned by Foucault's notions of the 'control of activity' alongside Illich's understandings of the ritual of schooling. The research design takes the form of a case study investigating two sites implementing the phenomena, using semi-structured interviews alongside document analysis and observation as its research methods. Findings from this research show the complex interplay of time, space and pedagogy affecting the design and implementation of alternative organisational structures which have further implications for student and teacher experiences. The threads of time, space and pedagogy in turn challenge the traditional expectations of control and choice in the classroom, leading to discussion around whether these structures are a compelling alternative to the conventional approach. This research contributes to the broadening knowledge of future focused education approaches, addressing a gap identified in the existing literature by providing further perspectives of how organisational structure can reflect commitment to innovative practices and potentially provide students with opportunities for more inclusive and personalised learning opportunities.

Table of Contents

Abstract	ii
Table of Contents	iii
List of Tables	vi
List of Figures	vi
Attestation of Authorship	vii
Acknowledgements	viii
Chapter One: Introduction	1
Introduction.....	1
Research significance and objectives	2
Research questions	3
Researcher positioning.....	3
Definitions of key terms	4
Innovative Learning Environment vs. Flexible Learning Space	4
Traditional (Model / Method / Approach).....	4
Transdisciplinary / Cross-disciplinary learning.....	4
Thesis organisation.....	5
Chapter Two: Literature Review	7
Introduction.....	7
Innovative learning environments	7
Innovative school design.....	9
Comprehensive innovative design.....	10
Innovative pedagogy and personalised learning.....	12
Teacher response to innovative school design	15
Organisational practices in schools	15
Perspectives on time	17
Flexibility in learning environments.....	20
Conclusion	21

Chapter Three: Methodology 23

Introduction.....	23
Research philosophy.....	23
Critical theory.....	25
Illich, Foucault and Freire	28
Methodology	28
Case study	29
Reflection.....	31
Data collection	32
Participant recruitment.....	33
Observation	34
Interviews.....	35
Document analysis.....	36
Data analysis	37
Ethical considerations.....	38
Conclusion	39

Chapter Four: Findings..... 40

Introduction.....	40
Participants.....	40
Site 1: Māhoe School.....	41
Pastoral time at Māhoe.....	42
Learning areas at Māhoe	43
Project time at Māhoe	43
Site 2: Kōwhai School	45
Pastoral time at Kōwhai	46
Physical wellbeing at Kōwhai	46
Numeracy and literacy at Kōwhai	47
Project-based learning at Kōwhai.....	47
Common themes.....	48
Design and implementation	48
Design of organisational model.....	48
Innovative pedagogy in organisational design	49
Physical space and time allocation	52

Implementation.....	53
Teacher experience	54
Student experience.....	56
Outcomes of organisational model.....	58
Conclusion	59
Chapter Five: Discussion	61
Introduction.....	61
Design.....	61
The relevance of space and time on design.....	62
Value-based design and innovative pedagogy.....	63
The student and teacher: an alternate experience	66
Teacher Narrative: Aligning pedagogical practice with environment	66
Student narrative: A different perspective	68
Outcomes: A compelling alternative?.....	70
Flexibility, personalisation and responsiveness in school organisation.....	71
A question of control	72
Conclusion	75
Chapter 6: Conclusion	76
Introduction.....	76
A reflection on the limitations and strengths of the study	78
The complex interplay of time, space, and pedagogy.....	79
Further study	82
A compelling alternative?	82
Reference List	84
Appendices	91
Appendix 1: AUTECH Ethics Application Approval	91
Appendix 2: AUTECH Amendments Application Approval	92
Appendix 3: Confidentiality Agreement.....	93
Appendix 4: Indicative Questions for Senior Leader Interview	94
Appendix 5: Indicative Questions for Teacher Interview	95
Appendix 6: Indicative Questions for Student Interview.....	97
Appendix 7: Indicative Observation Schedule.....	98

Appendix 8: Indicative Participant Information Sheet: Teachers.....	99
Appendix 9: Participant Recruitment, Student Advertisement	101

List of Tables

Table 1: Data Collection Table.....	34
Table 2: Table of Participants.....	40

List of Figures

Figure 1: Distribution of time at Māhoe School based on 2021 Timetable.....	42
Figure 2: Allocation of time across Year levels at Māhoe School based on 2021 timetable	44
Figure 3: Distribution of curriculum time at Kōwhai School based on 2021 Timetable.	45
Figure 4: Distribution of curriculum areas at Year 10 at Kōwhai and Māhoe schools.	50

Attestation of Authorship

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

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Chapter One: Introduction

Introduction

Traditional approaches to social organisation have been described by philosophers such as Foucault (1979), Csikszentmihalyi et al. (2014), and Freire (2005) as oppressive and a technique of control. Illich, in his widely referenced book *Deschooling Society*, argues that until alternative approaches to the “ritual of schooling” are adopted, “neither individual learning or social equity can be enhanced” (Illich, 1995, p. 55). Rigid schedules are a western industrial approach to time that is an established and unquestioned social norm in schools (Robinson, 2010). Up until the Renaissance, time was experienced through local communities embedded in cultural understandings of the ebb and flow of events (Whiteford & Barns, 2002). Lefebvre (1991) perceived time, along with space, as being socially produced changing through history to reflect social circumstances. The introduction of both mathematical systems and technology throughout Western Europe during and after the Renaissance saw scientific approaches being applied to time (Giesecking et al., 2014). Time is now dissected and industrialised into scheduled blocks to enhance efficiency, reflecting the requirements of the factory workday representing an unchallenged ritual in the traditional secondary school (Robinson, 2010). This study is an examination of how schools designed as Innovative Learning Environments confront these traditional approaches of organising time. This chapter introduces the rationale for the research alongside the significance and objectives followed by an elucidation of my positioning as a researcher. Significant terms used in this thesis are clarified, and the chapter is concluded with a brief overview of the following chapters in the thesis.

Innovative Learning Environments (henceforth ILE) research is growing rapidly; however, there remain unanswered questions regarding the implementation and use of these innovative approaches to learning. The Organisation for Economic Development (2013) (henceforth OECD) and the New Zealand Ministry of Education (2018) envisage these environments as an alternative to the traditional schooling model and as enabling innovative pedagogies and improved opportunities for individualised learning. Research shows, however, that senior leadership teams struggle to “align teaching practices, organisational structures and leadership with their design’s intended vision” (French et al., 2020, p. 175) with results including disjointed shifts in the organisational framework that are unable to provide substantial change to teaching and learning habits (Kedian & West-Burnham, 2017). The OECD (2013) identifies organisational structures as a fundamental element of the pedagogical core and in particular highlights learning time as a “central organising tool”, while Wright (2017) defines the allocation of time as a structure that “codifies and represents what matters. It defines boundaries that express curriculum and learning” (p. 53).

Organisational time structures can be difficult to change (Aeon & Aguinas, 2017), but, as currently there is “no set formula for determining practice in flexible learning environments” (Benade, 2017, p. 201), schools seeking to implement ILEs have the opportunity to establish alternative methods to time allocation. Flexible learning spaces offer a wider range of scheduling choices than traditional learning spaces (Nair, 2014). Organisational flexibility and freedom can offer students the opportunity to participate in a wide range of authentic learning experiences and for the “conceptualization and execution” of tasks (Benade, 2017, p. 36; Morrison & Kedian, 2017). While there is much research observing the effectiveness of ILEs, a gap has been identified around how people are engaging with organisational aspects of these environments (Blackmore et al., 2011; Saltmarsh et al., 2017). References to flexible scheduling approaches in the reviewed literature are incidental, and not made in regard to the influences of school organisational structures or learning time and its allocation.

Research significance and objectives

This study is a critical exploration of school organisational practices, in particular the structure and allocation of time in two New Zealand schools designed as ILEs. It is significant in addressing a knowledge gap in the existing research by considering whether these practices reflect innovative approaches to learning; how flexible learning spaces influence the structure of school organisation; and by critically examining the underlying priorities and values these altered systems imply, along with the teacher and student experiences of these alternate approaches. The value of this research lies in its contribution to broadening current understanding of ILE organisation and seeks to enact positive change by providing schools with further perspectives of how organisational structure can reflect commitment to innovative practices. The potential benefits of the study extend to the school community, school leadership teams, teachers and students through improved organisational practices enhancing student and teacher learning experiences.

The objectives of this research are twofold: firstly, to understand how innovative pedagogical practices influence the approaches taken to school organisation, in particular timetabling, and secondly, to ascertain whether innovative approaches to organisation and time allocation provide a compelling alternative to the traditional model. A critical theoretical framework underpins the study with reference to Foucault’s (1979) observations of the control of activity, Freire’s (2005) critique of ‘banking education’ and school organisational systems, alongside Illich’s (1995) arguments against the “ritual of school” (p. 55) and ‘hidden curriculum’.

Research questions

Foundational to this study are questions around time, space and pedagogy understood through the narratives of school leaders, students and teachers of school organisational structures in two selected ILEs. Also critical to the study is its investigation of the capability of innovative organisational approaches to provide a pertinent alternative to traditional schooling organisational arrangements.

In response to the previously identified objectives of this study, the framing question for this exploration is:

How do innovative pedagogical practices influence approaches to school organisation, in particular timetabling, and how does innovative building design support these approaches?

In addition to this main research question were three supplementary questions relating to the framing question and capturing further important aspects of the research objectives:

- 1. How do students and teachers experience these alternative approaches to school organisation in innovative learning environments?**
- 2. How is time being allocated by schools with innovative building design and what do these allocations signal?**
- 3. Why are these innovative approaches to school organisation being implemented, and are they a compelling alternative to the traditional organisational model?**

Researcher positioning

I have approached this research as a secondary school ‘teaching practitioner’. My teaching experience within the rigid traditional model of organisation and scheduling in secondary schools has highlighted to me the inadequacy of such a system to truly support deep and meaningful student learning. My own alternative educational background as a homeschooled student was rooted in flexibility and personal choice in learning. Traditional school organisational rituals, such as the ringing of a bell and strict timetables, were foreign to this educational approach resulting in these being jarring experiences during my initial teaching experience in a secondary school. This unique personal perspective resulted in my questioning of the accepted structural ‘norms’ that the majority of schools in New Zealand adopted as undisputed practices, deeply embedded in their organisational systems.

My initial engagements with the concept and practice of Innovative Learning Environments piqued my interest as to their capacity to implement alternative approaches to school organisation and their increased potential for authentic learning opportunities for students. The intention of these environments appeared to me as a shift of thinking around what education could offer and look like. Whether or not the different approaches implemented by these schools were an appropriate alternative to the traditional was an unknown in my mind, however, the prospect of unique organisational structures captured my interests, which led to this study.

Definitions of key terms

Before proceeding with this study, clarification around the use and definition of key terms is, perhaps, necessary. The following four terms are used throughout the thesis:

Innovative Learning Environment vs. Flexible Learning Space

‘Innovative Learning Environment’ (ILE) will refer specifically to “the product of innovative design of space and innovative teaching and learning practices” (Mahat et al., 2018, p. 20) and includes all the inherent aspects of one of these learning environments. The term ‘Flexible Learning Space’, (FLS) specifically describes the physical design element of an ILE. As is reiterated in Chapter 2, the New Zealand Ministry of Education uses the term FLS to discuss the physical design element of the learning environment, whereas ILE is used to describe the wider school ecosystem as a whole (New Zealand Ministry of Education, 2021).

Traditional (Model / Method / Approach)

I will be using these terms interchangeably throughout this thesis in reference to any conventional aspects of secondary education that have traditionally been adopted in schools. This refers to the system of generally teacher-directed, independent subject teaching within 60 minute periods that the majority of secondary schools in New Zealand still implement. Traditional approaches to education are often described as a ‘factory model’, designed during the industrial revolution to maximise efficiency (Robinson, 2010). The traditional classroom also reflects this ‘factory’ approach through “cellular classroom design, repetition of formal organisation from macro to micro-scales of occupancy, along with individuated and hierarchical divisions with respect to those who teach and those who learn” (Wells et al., 2018, p. 4).

Transdisciplinary / Cross-disciplinary learning

These two terms are used interchangeably throughout this study to refer to learning activities that overlap with two or more disciplines, or subjects. The New Zealand Curriculum (2007) indicates that education should “make links within and across learning areas” (p. 9) and

identifies this as a principle for curriculum decision making. Traditional approaches to learning in secondary schools tend to focus on subject silos that prioritise teaching and learning within one discipline at a time. Transdisciplinary learning, however, is considered a more innovative and dialogic approach that transcends subject areas to focus on skills relevant for a learner in the 21st century (Higham et al., 2014).

Thesis organisation

The current chapter, Chapter One, has introduced the background and researcher position for this study, rationalising the study through highlighting a lack of conversation in the literature focusing on school organisational approaches in Innovative Learning Environments. Chapter Two presents a detailed and critical review of the existing literature around the key ideas being investigated in this research. The literature review particularly focuses on the design and organisation of ILEs and asserts the importance of flexible approaches in enabling a broader spectrum of pedagogies supporting personalised learning experiences. Critical discourses considering time and spatial perspectives that influence practice are also examined. Several potential connections between time management and allocation on pedagogical approaches and design are identified for further discussion in the thesis.

The methodology in Chapter Three is articulated through the description of the conceptual framework underpinning this study, the methodological approach, and the methods adopted to collect relevant and appropriate data. The underpinning conceptual framework is critical theory drawing on elements of Foucault's (1979) control of activity and Illich's (1995) observations of 'hidden curriculum' in education. The qualitative study design was implemented as a multiple-site case study with a small sample of participants recruited through established criteria. The chapter includes the research methods of semi-structured interviews, observation and document analysis and information of how the data collected was thematically analysed.

The main findings from this study are presented in Chapter Four. These are presented in two sections along with subthemes. This first section summarises each site's approach to alternative school organisational practices, focusing on the allocation of time within each case study site. Following this, the common findings from the data are then grouped together into three main themes; namely, design and implementation, student and teacher experience, and outcomes of the organisational model. These themes and their subthemes are corroborated by the perspectives and narratives of the eight participants.

Over the course of Chapter Five, the findings are discussed in relation to the existing literature. The discussion includes new insights into connections between innovative pedagogy, school design and time management, along with student and teacher experience of these approaches. The common threads persistent throughout this chapter of time, space and pedagogy merge with

themes of control reflecting Foucault's (1979) observations of the control of activity. This chapter follows the thematic pattern established in Chapter Four, following the main themes of design and implementation, student and teacher experience, and outcomes of the organisational model.

Finally, Chapter Six draws out the main conclusions from this study by synthesising the key observations from previous chapters, the findings and their analysis from the previous two chapters. A summary of the thesis is presented alongside a reflection on the limitations and difficulties presented by the study. Avenues for further study are discussed, identified by insight from the research study and research process. Finally, concluding remarks discuss the motivation and realisations afforded by the study.

Central to this thesis is an exploration of time, space and pedagogy, underpinned by questions of control and authority. Traditional approaches to education tend to exclude the student from conversations concerning their own learning, limiting autonomy and choice (Nair, 2014). By investigating alternate approaches to school organisation, this study seeks to challenge long-established traditional structures and discover if the alternate approach of ILEs can offer a compelling alternative that can shift the traditional and largely accepted power imbalances toward student autonomy and choice.

Chapter Two: Literature Review

Introduction

Time is inextricably woven through life experience and is thus an inevitable element of school organisational practices. While there is a developing body of knowledge investigating the spatial context of education, knowledge around the effects of organisational practices and the use of time in learning environments is somewhat underrepresented. This literature review seeks to position the importance of school organisation in relation to Innovative Learning Environments (ILEs), in particular the management of time. The chapter is framed as a narrative beginning with consideration of the broader picture of ILEs converging on flexible organisation approaches in the context of supporting individualised and deep learning experiences. This narrative is expressed through an exploration of recurring themes within current discourse. These themes probe relationships between the deliberate integration of organisational structures with ILEs and a wider array of pedagogical approaches that endeavour to provide students with increased occurrences of personalised learning. This review emphasises the significance of school organisational structures in future focused education.

Innovative learning environments

Educational futures research highlights the necessity of providing learners with the tools and resources needed to succeed in the 21st century (Alterator & Deed, 2018; New Zealand Ministry of Education, 2018; Wall, 2016). There is growing consensus amongst educators and researchers that the traditional model of schooling is unable to provide the fluidity, responsiveness, and array of pedagogical approaches necessary in supporting today's learners (Kedian & West-Burnham, 2017; McPhail, 2016; Morrison & Kedian, 2017; Robinson, 2010). Globalisation, information storage, inexpensive technology, and advances in neurological science are highlighted by Osborne (2016) as some of the key influences that have prompted the scrutiny of long-established and unchallenged practices in education. These, in conjunction with an increased acknowledgement of the benefits of both personalisation and inclusion in education (Benade, 2019; New Zealand Ministry of Education, 2018; Niemic & Ryan, 2009), have seen the emergence of '21st century learning approaches' and a deliberate shift away from traditional schooling models toward 'innovative' approaches to education (Alterator & Deed, 2018). The term 'innovation' in education generally indicates a purposeful departure from traditional approaches (OECD, 2013) or to "move away from strict and under considered or non-critical and often unmoving norms within education" (Alterator and Deed, 2018, p. 6). Systematic transformation of the entire education process is needed (Benade, 2019), or as

Osborne (2016) aptly suggested with this epigraph: “Ka pū te ruha, ka hao e rangatahi – When the old net is worn, the new net goes fishing” (p. 2).

ILEs have been suggested as fundamental to the evolution and implementation of twenty-first century schooling models and a solution that challenges traditional educational approaches (Kedian & West-Burnham, 2017; OECD, 2013). Architectural and facility design in education has increasingly begun to reflect the need for innovation through embodying flexibility and adaptability to support innovative pedagogical approaches, resulting in the development and implementation of ILEs in schools (Benade, 2021a; Wall, 2016; see also OECD, 2013). Both the OECD (2013) and the New Zealand Ministry of Education (2018) envisage these environments as an alternative to the traditional schooling model, enabling innovative pedagogies and providing improved opportunities for individualised learning. Alterator and Deed (2018) note that this shift from “a single, teacher-centred mode of education has been building momentum for considerable time” (p. 3). An Innovative Learning Environment, as indicated by the OECD (2013) is holistic and organic, meeting the pedagogical, physical, and technological learning needs of its participants, evolves with educational practice and is not limited to a physical space. Likewise, the New Zealand Ministry of Education consider ILEs to have a greater focus on personalised learning, recognition and celebration of diversity along with culturally and socially responsive environments (New Zealand Ministry of Education, 2018). Other education researchers describe ILEs as the integration of open-plan, adaptable physical environments with innovative pedagogy, creative collaboration of resources and teacher expertise alongside the flexibility to evolve with the changing needs of the learners to ensure access to personalised learning (Imms et al., 2016; Saltmarsh et al., 2015; Wright, 2017). This study works from the perspective provided by the Innovative Learning Environment and Teacher Change (ILETC) project:

An ILE can be defined as the product of innovative design of space and innovative teaching and learning practices. Innovative learning spaces are physical educational facilities designed and built to facilitate the widest array of flexibility in teaching, learning, and social educational activity while innovative teaching and learning practices are the sum of teaching and learning activities that in combination assist in the best possible learning outcomes and learning skills of students required in the 21st century. An ILE is produced when these two phenomena are successfully merged. (Mahat et al., 2018, p. 20)

There has been a push within New Zealand schools toward the implementation of ILEs, with a particular focus on the physical design of learning spaces, in the hopes of encouraging change in pedagogy that will provide for the evolving needs of 21st century learners (Benade, 2021a; New Zealand Ministry of Education, 2021). While the New Zealand Ministry of Education sees a direct correlation between the physical space and quality of teaching and learning (New Zealand

Ministry of Education, 2021), it is important to note the distinction between an ILE and a Flexible Learning Space (henceforth FLS). The term 'FLS' is used to discuss the physical design element of the learning environment, whereas 'ILE' is used to describe the wider school ecosystem as a whole (New Zealand Ministry of Education, 2015; New Zealand Ministry of Education, 2021; Wall, 2016). FLS is separate again to the more recent term 'QLE' (Quality Learning Environment) which refers to the standards and specifications of identified physical elements within a learning environment (New Zealand Ministry of Education, 2021).

Innovative school design

The design of learning spaces matters and is invaluable in terms of “scale, purpose, function and form” (Wright et al., 2021, p. 120). Design reflects the education priorities of the day which can be seen through the traditionally designed single cell classrooms that support teacher-directed pedagogies evolving into flexible spaces that allow innovative pedagogies to be implemented (Wall, 2016). There is an increase of new approaches to the design of learning spaces with key factors influencing changes in learning environments, such as “changing social patterns, generational change, a changing funding environment, new and emerging technology and the shift to a more learner-centred pedagogy” (Radcliffe, 2009, p. 11). Although there is a generally consistent focus on design maximising flexibility, allowing for student and teacher control of space, there is also a lack of general agreement in the approach of creating new learning spaces (Radcliffe, 2009). Designers and architects are interested in the perspective of learning space design “influenc[ing] the behaviours and actions of individuals within those spaces” (Monahan, 2002, p. 5) with some viewing the more open and flexible environments as a conduit for innovative pedagogical practices (Gislason, 2009; Deed & Lesko, 2015).

Gislason (2009) argued that physical settings have an impact on the educational process with more flexible arrangements facilitating collaborative, multi-disciplinary teaching practices, while Benade (2019) also suggested that FLS “encourage and enable teachers to exchange ‘front-of-the-room’, single teacher presentational approaches for collaborative, dispersed and facilitative styles, often in teams, working with multiple students in shared, common learning spaces” (p. 53). In their extensive review of the literature, however, Blackmore et al. (2011) contended that buildings and the altered physical environment is not enough to constitute change and suggest that too much emphasis can be placed on the physical elements of a learning space. This sentiment is echoed by others who argue that while altering the physical environment can drive change, flexible practices are not guaranteed by the provision of a flexible environment (Benade, 2019; Gislason, 2018; Monahan, 2002). The work of French philosopher Lefebvre (1991) has contributed considerably to the discussion around space and the revisiting and redesign of learning environments. Lefebvre argues that space is not “a collection of things or an aggregate of (sensory) data, nor a void packed like a parcel with

various contents” (Lefebvre, 1991, p. 27 as quoted by Benade, 2019, p. 26). Instead space, like time, can support and encourage different ideological constructs and schools need to be careful what practices spaces are implicitly or explicitly signifying, whether through reinforcing student disempowerment or through encouraging student empowerment through active participation (Benade, 2019; Monahan, 2002). While open spaces may authorise different pedagogical approaches, these environments can present significant challenges to teachers and students, potentially limiting the effectiveness of any innovative pedagogy being practiced (Deed & Lesko, 2015). The relationship between design and practice are not simple and linear connections are not easily established between innovative design and innovative pedagogy (Gislason, 2009).

French et al. (2020) indicate that many of the schools implementing ILEs “fail to align teaching practices, organisational structures and leadership with their design’s intended vision. This results in a misalignment between the pedagogical goals of the building and its subsequent use” (p. 175). It would seem that many school leadership teams struggle to focus on the holistic picture painted by the OECD, instead narrowing their view to focus solely on the physical design aspects (French et al., 2020; Morrison & Kedian, 2017; OECD 2013). In the New Zealand context, Morrison and Kedian (2017) suggested this may be due to the union of the Ministry of Education’s (2011) property strategy with the launch of ILEs and the seeming fiscal implications. The new Quality Learning Environments policy will not necessarily amend this focus on physical elements given its focus on material elements (see New Zealand Ministry of Education, 2021). The physical environment of a school is just one of several factors that contribute to an overall school learning environment, with pedagogy and organisational elements also important considerations in developing effective learning spaces (Gislason, 2018; Radcliffe, 2009). Organisational practice and culture also need to change to achieve more inclusive and personalised outcomes for learners (Byers et al., 2018; Osborne, 2016). There needs to be an active and holistic decision-making process considering how space will work at a range of levels to ensure that innovative physical designs reach their potential (Benade, 2021a; Gislason, 2018; Radcliffe, 2009).

Comprehensive innovative design

Although there may be increased opportunity for a wider array of pedagogical approaches within an ILE (Byers et al., 2018; Imms et al., 2016; Nair, 2014), the effectiveness of an ILE appears to be dependent on its overall comprehensive design and implementation (French et al., 2020; Gislason, 2009; Wright et al., 2021). Ecology, organisation, culture and milieu are indicated by Gislason (2009) as four integrated components that together define environmental quality and influence environment choices that relate to the whole school rather than solely

focusing on the physical aspect of the design. Gislason further described each of these components as follows (as inspired by Owen and Valesky's (2007) school environment model):

Ecology refers to school facilities, technology, and other material elements within a school setting. *Organisation* encompasses teaching and planning practices, curriculum, and other aspects of how a school operates and is organised. *Culture* refers to the assumptions and values, as well as to group-level patterns of thought and behavior, shared among staff. *Milieu* entails students' sense of motivation, social patterns within the school, and other psychosocial dynamics among students. (Gislason, 2009, p. 18, emphasis in original)

Radcliffe (2009) suggested a slight variant on this, identifying a nexus between pedagogy, technology and the physical design of the learning space:

Each of the three elements, pedagogy, space and technology, influence each other in a reciprocal fashion. Thus, achieving a desired pedagogy might suggest a preferred way to arrange the shape and use of space, equally a learning space irrespective of its intended use will tend to shape what people do in it and hence the patterns of teaching and learning. Similarly a particular space places constraints (or presents opportunities) for the introduction of certain type of technology while a given technology can impact how a space is used by teachers and students. (Radcliffe, 2009, p. 14, parentheses in original)

Regardless of the whole school approach adopted, each element should be carefully considered and balanced to avoid the overall design being unable to deliver on its goals (Gislason, 2009; Radcliffe, 2009). Each design element needs to be considered both explicitly and holistically to develop a whole school design that achieves student centred education that is able to engender a greater focus on personalised learning and support inclusivity, along with culturally and socially responsive learning environments (New Zealand Ministry of Education, 2018; Wall 2016).

An alternate approach to comprehensive school design is advocated by Julia Atkin (1996) centred on school vision, values and beliefs. The overall design implemented at many schools reinforces past patterns that reflect traditional approaches to education rather than deliberate and conscious choices that support the pedagogical goals of a school (Atkin, 1996). Designing a traditional school is relatively uncomplicated due to the standard classroom model being "rooted in history" (Gislason, 2009, p. 187) and the majority of stakeholders implementing designs that reflect their past educational experiences (Atkin, 1996). Atkin's (1996) approach places a school's vision and values at the centre and forefront of design rather than adopting historically accepted approaches to overall school design. Schools adopting a 'vision-based approach' in collaboration with their communities are able to develop a vision from which learning principles and subsequently organisational practices can stem. This creates a more responsive, reflective school environment rather than accepting and implementing unchallenged traditional norms (Atkin, 1996; Baquedano-López et al., 2013). Schools should also consider collaborating with their educational community before embarking on any design approaches to

ensure coherence and uptake of the design (Baquedano-López et al., 2013; Atkin, 1996). Biesta (2010) argued schools tend toward ‘evidence-based education’ and highlighted the issues of power and values in this approach, emphasising the authority imposed on schooling structures by leadership teams. Biesta (2010) argued that education is, in fact, value-based and these values are fundamental to practice. Maximising the potential of overall school design requires careful consultation and planning with all stakeholders (Wright et al., 2021). This consultation and planning, however, often fails to represent or include the school community of parents, students and teachers directly affected by the design (Baquedano-López et al., 2013; Benade, 2021a; Wells et al., 2018). The result of this lack of consultation can be “a sense of disempowerment and even inferiority, often exacerbated by limited information” (Benade, 2021a, p. 5), and can reflect prioritisation of the school’s agenda over the education community’s vision and aspirations and lead to new designs unable to reach their potential or intended vision (Baquedano-López et al., 2013, p. 150).

Opinions around the successful and effective implementation of overall school design are varied. Kedian and West-Burnham (2017) suggest that introducing innovative learning environments incrementally without a coherent and broader plan can fail to deliver its objectives. Seemingly contradictory to this is Heppell’s (2019) suggestion that small steps towards innovative practice are all vital to improving learning environments and experiences for students. Ideally, if the incremental changes are made with a broader conceptual goal involving careful consideration of each design element, a learning environment can engender effective change in pedagogy whilst avoiding a complete and rapid overhaul of the physical learning environment (Heppell, 2019). Both an aggregate approach and an entire overhaul of the learning environment are possible and can be successfully implemented according to Gislason (2018). This is, however, reliant on a strong cohesive organisational basis as essential to these successes, as well as ensuring teachers are sufficiently trained for the new environment (Gislason, 2018). While physical design is foundational to a school achieving spatially responsive pedagogies, it is also critical to consider other design factors, such as pedagogy and organisation, in developing cohesive learning environments that support both teachers and learners (Gislason, 2009; Gislason, 2018; Saltmarsh et al, 2015).

Innovative pedagogy and personalised learning

Innovative pedagogies allow for a move away from what Freire (2005) labels the “banking concept of education” (p. 70), which he described as “an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiques and makes deposits which the students patiently receive, memorize, and repeat” (Freire, 2005, p. 70). Freire went on to describe this mode of education as a type of oppression which views students as passive receivers rather than active participators in their

own learning. This didactic approach to teaching is contradictory to the OECD's (2013) aspirations for ILEs to include broader implementation of innovative pedagogies that emphasise personalisation. The intention of innovative pedagogies is to develop student centred modes of learning that allow more dialogic approaches to teaching and learning alongside students' increased access to personalised learning experiences (Csikszentmihalyi, 2014; Higham et al., 2014; Nair, 2014). Higham et al. (2014) argue that dialogic approaches to teaching allow for learning which encourages students to "engage in wider dialogues across disciplines that relate their discrete learning back to real-world contexts, thus fostering applied, flexible thinking and an increasing sense of agency" (p. 97), better reflecting the skills required for a 21st century learner (OECD, 2013).

Personalisation has various meanings dependent on the context, whether in relation to the physical environment or learning context (Blackmore et al., 2011). A key aspect of personalisation whatever the context according to Blackmore et al. (2011) is "ownership" (p.23). Benade (2017) distinguishes personalised learning from differentiated learning as providing students with the opportunity to engage in learning that directly interests them in their own time, as opposed to producing different activities within a predetermined topic. An analogous definition, offered by French et al. (2020) is student-led, multi-modal learning taking place in a flexible learning space, while Bolstad et al. (2012) suggest personalisation allows genuine involvement of students in decision making about their own learning. Thus 'personalisation' is distinct from 'differentiation' (Benade, 2017). Campbell et al. (2007) offer a further subtle differentiation between 'personalisation' and 'personalised learning', suggesting personalised learning as driven by the teacher, school or state, where true personalisation is providing students autonomy over their own learning.

Self-directed, learning can be considered one method of providing personalisation (Brookfield, 2013). According to Brookfield (2013), self-directed learning is "learning in which decisions around what to learn, how to learn it, and how to decide if one has learned something well enough are all in the hands of learners" (p. 90) all of which are important skills for 21st century learners (OECD, 2013) and situate autonomy with the student rather than the teacher (see Freire, 2005). Blackmore et al. (2011) focus on different methods of providing personalisation including:

Multimodal approaches to teaching and flexibility in classroom settings conducive to learner-centred and project-based interdisciplinary pedagogies. Some examples of this include individual computer assisted skills learning, learning-style-based instruction, self-paced learning, contract learning, guided practice through coaching, co-operative learning in small groups and project based or topic study. (Blackmore et al., 2011, p. 23)

An empirical study conducted by Byers et al. (2018) suggested that students felt that their experiences involved more embedded occurrences of collaborative, personalised, and active learning within an ILE. In this study there was no evidence to suggest that the student perceptions of their own learning correlated to actual increased motivation and engagement (Byers et al., 2018). Shernoff et al. (2014), however, observed that when students have increased voice in their activities they were more likely to find the activity enjoyable, intrinsically rewarding, and “producing positive educational outcomes for learners” (Shernoff et al., 2014, p. 492; see also Csikszentmihalyi, 2014). This observation aligns with Niemic and Ryan’s (2009) findings that student choice and voice over their learning increases intrinsic motivation and students subsequently “tend to learn better and are more creative when intrinsically motivated, particularly on tasks requiring conceptual understanding” (p.136).

According to Nair (2011), current research ‘demands’ a personalised education model in order to maximise individual student achievement. The development of collaborative teaching pedagogies enabled by FLS has allowed the advancement and implementation of personalisation for students (Byers et al., 2018; French et al., 2020; Imms et al., 2016). Traditional classrooms, Nair (2011) argues, are based on the misguided notion that content delivery is equal to effective learning and these classrooms are unable to accommodate the broader spectrum of pedagogy that personalisation requires (Nair, 2011; New Zealand Education Review Office, 2018; Wright et al., 2021). This ‘one-size-fits-all’ pedagogical approach prevents students from benefiting from deeper learning opportunities (Shernoff et al., 2014). Niemic & Ryan (2009) further propose this system is based on controlling educational climates and undermines student motivation. Csikszentmihalyi et al. (2014) argue that when individuals are fully invested in an activity, they enter a ‘flow state’ which encourages deeper engagement and promotes optimal learning experiences. Obstacles that can prevent individuals from experiencing this phenomenon can be anything that reduces personal freedoms, including rigid organisational arrangements and confined learning spaces (Csikszentmihalyi et al., 2014; Shernoff et al., 2014). In support of this theory is the observation of Byers et al. (2018), that traditional classrooms are more likely to support surface learning experiences rather than deep learning, which Csikszentmihalyi (2014) identifies as an important element of student learning experiences. Wright et al. (2021) argue that the physical environment is necessary in supporting personalisation, stating:

Opportunities for students to traverse individual and social learning contexts occur more easily when spaces accommodate fluidity. Students can be more active players and designers in their trajectory of learning, rather than fixed in spaces that have little room for movement once they are seated. (Wright et al., 2021, p.2)

Teacher response to innovative school design

Altering the physical environment can act as a catalyst for educators, enabling a reorganisation of how learning can be facilitated, with open spaces promoting potential opportunities to express different teaching pedagogies (Wright et al., 2021). The design of innovative, flexible spaces leads to the dislocation of conventional practice for teachers and students familiar with didactic educational approaches (Wells et al., 2018). ILEs provide teachers with opportunities to increase their responsiveness to student needs by “seeking strategies and opportunities to create learning experiences that arise from student interest” (Benade, 2017, p. 80). Teachers, however, as mentioned previously, are challenged by flexible environments and often struggle to adapt their routines and practice accordingly (Deed & Lesko, 2015; Gislason, 2018). Even within an innovative and flexible physical space, teachers may perceive the pedagogical opportunities afforded by the environment but can be “constrained by institutional memory and routine” (Deed and Lesko, 2015, p. 220), which is often a product of personal traditional teaching and learning backgrounds (Saltmarsh et al., 2015).

Many teachers attempt to implement traditional teaching methods such as controlling access and instigating behavioural controls as ways of shaping the behaviour of their students (Deed & Lesko, 2015). This was also commented on by Wright et al. (2021) who noted “reorganising and rethinking how people learn and how learning can be facilitated, becomes more urgent when classroom spaces are radically different from traditional expectations” (p.20). Teachers should be provided with appropriate professional learning opportunities before committing to teaching in an ILE to mitigate some of the difficulties of grappling with “unconventional teaching methods while adapting to a new environment” (Gislason, 2018, p. 188). Teachers often feel pressure to implement policy from ‘top-down’ decision making, but instead need to be engaged with the values and vision of a school before being able to align their practice with innovative approaches (Atkins; 1996). Gislason maintains that;

Organisational support is essential for the long-term stability of innovative programs. If there is no school-level support, and if the teachers and administrators are unable or unwilling to embrace reform, then there is no real reason to develop or maintain an unconventional program as it will likely fail in any case. (Gislason, 2018, p. 199)

This further highlights the importance of providing appropriate professional development and support for teachers working within ILEs to ensure the school vision is being established alongside school organisational practices (Gislason, 2018; Wright et al., 2021).

Organisational practices in schools

As mentioned previously, organisation is important to design (Gislason, 2009) and it has been suggested that organisational choices connect educators, content and learners to effectively

structure what takes place within a learning environment (Blackmore et al., 2011; OECD, 2013). Gislason (2018) argues that “a school’s physical layout will support some teaching methods better than others, so it is important to consider how to coordinate form with function” (p. 188). The OECD (2013) identifies organisational structures as a fundamental element of their pedagogical core. In their extensive review of the literature, Blackmore et al. (2011) found that changes in the organisation and structure of space and time does not necessarily bring about changes in practice and pedagogy. Careful design of these factors focusing on specific goals can, however, mitigate disjointed shifts in organisational structures that are ineffective in bringing about real change in teaching and learning (Kedian & West-Burnham, 2017; Wright et al., 2021). French et al. (2020) suggest that when “design decisions are paired with intentional organisational structures and outlines, educator perceptions of the decisions can shift from it being a constraint to an enabler” (p. 184). Conversely, Newby (2014) argues achieving organisational change that fulfils its goals may require a deeper change in outlook, attitudes, and culture. This mirrors other research that suggests that organisational structures are culturally produced and are often deeply ingrained in teachers’ habitual practices (Deed & Lesko, 2015; OECD, 2013; Saltmarsh et al., 2015).

Organisational traditions are embedded in a school’s culture and the opportunity for personalised learning can be directly affected by the organisational decisions made by a leadership team (French et al., 2020; Saltmarsh et al., 2015). School leaders are urged by the OECD (2013) to rethink the organisational practices that structure schools and are part and parcel of traditional learning approaches. They suggest instead, the adoption of flexible approaches to school organisation, including innovative implementation of curriculum and learning time. The New Zealand Ministry of Education (2018) visualise learning environments that are able to adapt to evolving and developing educational practices and needs. Flexible approaches to school organisation should “ensure access and participation by all students, without lowering expectations of standards” (Morrison & Kedian, 2017, p. 3). A traditional schooling model would typically have six or seven short timetabled lessons of curriculum content delivered in ‘silos’ by single teachers, which Byers et al. (2018) argue is more likely to support surface learning. An ILE has the potential to broaden the structure of time and curriculum and implement flexibility which would allow different pedagogical approaches supporting increased personalised learning experiences. Indeed, Gislason (2018) suggests “open settings are a poor choice for the conventional single-subject, single-teacher approach because they do not offer the visual and acoustic boundaries required to conduct discrete lessons in a sustained fashion” (p. 188).

The OECD (2013) acknowledge that organisational dynamics and choices are “such a familiar part of school routines and cultures that they often pass unnoticed, but in reality they powerfully structure what takes place” (p. 11). Predictable routines can either succeed in oppressing or

supporting those within them and design is foundational to this (Wright et al., 2021). Biesta (2010) highlights that organisational structures such as timetable, year groups, and staged curricula place temporal constraints on learning, creating social constructions that reduce the complexity of the human learning experience. The controlling aspects of a traditional learning environment can also, according to Niemic and Ryan (2009), suppress intrinsic motivation in students. Saltmarsh et al. (2015) describe these routines as deeply ideological traditions within educational culture that are “oriented toward achieving an orderly and compliant population for the purposes of social governance” (p. 319). In his widely cited book *Deschooling Society* (1995), Ivan Illich, describes these organisational routines as ‘rituals’ that are part of a framework which is never questioned, while Paolo Freire in *Pedagogy of the Oppressed* (2005) argues they are forms of manipulation which reduce people to “guided objects, adapted to the objectives of the manipulators” (Freire, 2005, p. 148). These perspectives align with the observations of Foucault (1979), a French philosopher interested in the relationship between power, knowledge and social control. Foucault labelled these forms of manipulation ‘the control of activity’ which serve to dominate and oppress those within such organisational frameworks. He views these types of organisation as seeking to regulate movement and impose an “obligatory rhythm” (Foucault, 1979, p. 152). Foucault argues organisational systems, such as timetables, are inherited structures that seek to form obedient individuals through the partition of life into sections of time wherein individuals are expected to devote themselves to particular types of activity. These timetables create environments within which individuals are under constant supervision and obligation of behaviour where wasting time is considered “a moral offence” (Foucault, 1979, p. 154). Freire (2005) does, however, suggest that when “individuals are active in the organising process, and the objectives of the organisation are not imposed by others” (p. 148), organisation becomes a means of liberation rather than oppression. Thus, organisational practices can both facilitate or inhibit the people living and working within them. Although these seem quite extreme perspectives of a system which has largely been accepted for centuries, it does highlight the dialectal relationship between organisational frameworks and human behaviour in the context of power and social oppression (Butler & Sinclair, 2020; Saltmarsh et al., 2015).

Perspectives on time

A key challenge to inhabiting and working within ILEs is time and its management (Mahat et al., 2018; OECD, 2013). Time is an essential resource and asset to be considered in school organisation, without which the acquisition of other resources, such as knowledge and learning, is impossible (Aeon & Aguinas, 2017). The OECD (2013) identify learning time as a central organising tool while Wright (2017) defined the allocation of time as a structure that “codifies and represents what matters. It defines boundaries that express curriculum and learning” (p. 53).

Established organisational time structures and ‘norms’ are difficult to resist and even harder to modify or transform, this is in part due to expectations of what normal structures of time are and routines of habit (Aeon & Aguinas, 2017; Saltmarsh et al., 2015). The use of time structures the pace of the interactions between teachers and students and is also vital in regards to what types of pedagogical approaches can be implemented alongside enabling the depth which students are able to go at any given point (Danielson, 2002). Thus, it is important to address the organisational structure at the outset of the design, considering time and its allocation alongside pedagogical goals to ensure clear expectations are presented around the management of time (Aeon & Aguinas, 2017; Blackmore et al., 2011; Gislason, 2018).

Traditional schools were built according to an established industrial technique, “using duplicate classroom building blocks. Row upon row, and layer upon layer of these blocks create what might be characterised as an industrial scale school” (Alterator & Deed, 2018, p. 13). The use and allocation of time at these schools follows a nearly indistinguishable pattern with layer upon layer of blocks creating an industrial style schedule to mirror the physical design (Robinson, 2010). This timetabling approach is based on positivist and scientific approaches to rationalise and standardise education (Britzman, 2003; Saltmarsh et al., 2015). Shernoff et al. (2014) observed in these environments that students spent approximately one third of their time “passively attending to information transmitted to the entire class” (p. 489) which restricts student decision making, inhibits motivation and prevents students from functioning at their fullest capacity (Bolstad et al., 2012; Csikszentmihalyi et al., 2014; Niemic & Ryan, 2009). Saltmarsh et al. (2015) also suggest that strict adherence to a rigid timetable leads to instances where responding to individual student’s needs is not possible. This aligns with Nair’s opinion that;

The disconnect between learning goals and education is clearly evidenced by how the typical school day is scheduled. Breaking up the school day into forty-five minute segments is an efficient way to deliver the curriculum and ‘cover’ the material but it is not effective if real learning, measured by true student engagement and deep understanding, is important. (Nair, 2014, p. 15)

Perceptions of time are embedded in culture and affect how people live, work and recreate (Whiteford & Barns, 2002). Different socio-cultural groups perceive and interpret time differently with contrasting time orientations resulting in cross-cultural misunderstandings, potentially creating barriers to integration and inclusion (Ancona et al., 2011; Lo & Houkamau, 2012). New Zealand is particularly unique in that Māori and Pākeha¹ perspectives of time are informed through the “juxtaposition of cultures from two contrasting temporal clusters” (Lo & Houkamau, 2012, p. 106). ‘Clock time’, a predominantly western approach to time, is characterised by appointments, organised scheduling and relying on clocks or time devices to

¹ A term in the Māori language referring to New Zealanders typically of European descent

inform behaviours. Conversely, ‘event time’ is characterised by a socio-centric worldview which emphasises a natural flow of events and prioritises the appropriate and successful completion of tasks or interactions rather than being ‘on time’ (Lo & Houkamau, 2012). Where western, industrialised cultures tend towards ‘clock time’, Māori and South Pacific nations historically perceive time as based around events (Whiteford & Barns, 2002). Western understandings of place and time tend to determine approaches to organisational structures and systems in New Zealand (Whiteford & Barns, 2002).

This western perspective can also be seen in the majority of New Zealand secondary school approaches to organisation, particularly around time orientation (see Aeon and Aguinas, 2017; Lo & Houkamau, 2012). Whiteford and Barns (2002) suggest that colonisation imposed a western understanding of time on Māori, which is consistent with Benade’s (2019) suggestion that the traditional education system ignores cultural difference and demands Māori students to assimilate into “the prevailing European mainstream” (p. 57). The New Zealand Ministry of Education attempt to address this disparity in the document *Flexible learning spaces: Making spaces work for everyone* (2016). This document specifically focuses on the physical design of FLS to support a diverse range of students and create inclusive spaces “with Maori and Pasifika learners in mind” (p. 1) but neglects to recognise other factors such as temporal perspectives of non-western students. The FLS envisaged by the New Zealand Ministry of Education (2016) are intended to support tuakana-teina² relationships. These relationships, however, require enough time and flexibility to be appropriately supported from indigenous ‘event time’ perspectives, enabling the successful completion of tasks and interactions (Benade, 2017; Lo & Houkamau, 2012). The singular focus on physical design aspects assumes innovation is defined solely by space, whereas innovative approaches to space can create opportunities for innovative school organisation (Benade, 2017; Nair, 2014).

Time and space are socially produced and maintained by western or capitalist systems through administrative and organisational practices such as plans and timetables (Lefebvre, 1991; Gieseeking et al., 2014). Social space, according to Soja (1989) as cited by Benade (2021b), “cannot be independent of physical and conceptual space” (Benade, 2021b) and social relations according to Lefebvre (1991) are influenced by space and also time. This has direct implications on teaching and learning within ILEs. Not only do western approaches to organisation in education alienate indigenous approaches to culture and learning, they also do not cater for deep student engagement and tend to pressurise students to complete tasks within rigid timeframes (Lo & Houkamau, 2012; Nair, 2014; Niemic & Ryan, 2009). Illich (1995) argued that using rituals, such as timetables is neither “liberating [n]or educational, because school reserves instruction to those whose every step in learning fits previously approved measures of social

² “Tuakana-teina refers to the relationship between an older (tuakana) and a younger (teina) person, and is specific to teaching and learning in the Maori context” (New Zealand Ministry of Education, 2016, p. 2)

control” (p. 21) negating any intentions of the curriculum to inclusion. For Benade (2017) “the successful completion of rich, authentic tasks depends on having adequate blocks of time for conceptualisation and execution” (p. 36), a proposition made difficult by the rigid structure of a traditional school organisation which provides limited access to the curriculum through fixed periods. Traditional scheduling methods are antithetical to collaboration and encumber opportunities for innovative pedagogical approaches such as interdisciplinary and project-based learning (Nair, 2014), while a teacher’s capacity to know students and understand their educational needs are influenced by the schedule (Danielson, 2002; Gislason, 2014). Standardised timetable structures are an inherent and largely unchallenged aspect of traditional learning approaches that need to be reconsidered (OECD, 2013).

Flexibility in learning environments

In contrast to traditional models of organisation, flexibility and openness offer freedom and access for students to engage in meaningful and authentic learning experiences without lowering expectations of standards (Morrison & Kedian, 2017). The intention of the OECD is that flexibility should go ‘hand-in-hand’ with individualised learning plans and is a potential avenue to making schooling less bureaucratic (OECD, 2013, p. 98). The focus of school organisation should not be on controlling student behaviour but a means of increasing effective and responsive learning experiences (Nair, 2014). Flexible organisation and scheduling need not depend on physical space (Benade, 2017), however, ILEs do offer a wider range of scheduling choices not (easily) available in traditional learning spaces, including the integration of subjects to develop project-based learning opportunities, extended learning blocks and flexible periods to allow students adequate time for the development and completion of tasks (Benade, 2017; Nair, 2014). Conversely, attempts to implement traditional organisational methods in ILEs can result in student learning needs being ignored due to the militant nature of conventional scheduling as observed by Saltmarsh et al. (2015). Observations conducted in a number of ILEs, however, show that many of these schools have developed a method of organising their learning time into fewer and longer periods to provide greater flexibility, and freedom for deeper learning experiences (Benade, 2017; Deed & Lesko, 2015; McPhail, 2016; OECD, 2013). Alternate approaches to organisation were observed by McPhail (2016) in one ILE school. In this school, students did not spend time in individual subject areas but after opting into personally relevant topics, worked within modules that covered multiple areas of the curriculum. In addition to this, students were allocated 11% of learning time for further personalised learning time that they could use at their own discretion (McPhail, 2016). This provided students with agency and choice over their own learning and removed aspects of control embedded in the organisation of the school. Another case study conducted by Msapenda and Hudson (2013) found that more flexible approaches to timetabling allowed for better response to individual needs and issues.

Increasingly, schools are adopting alternate approaches to school organisation, although there are difficulties involved with the implementation of flexible approaches to organisation. Benade suggests that

The transition to modern, innovative or future-focused learning (and teaching) invites the rearrangement of students in modes that may no longer resemble strict age groupings; that create the possibilities for having large groups of students working in one large space; and the rearrangement of the periodisation of the day, into large blocks of time, no longer punctuated by the ringing of bells. (Benade, 2017, p. 78)

Of course, these alternate organisational arrangements can cause challenges and discomfort for both teachers and students. Traditionally trained teachers are required to develop alternative approaches to lesson planning in addition to learning how to openly collaborate with their colleagues sharing both resources and spaces (French et al., 2020; Nair, 2014). Teachers may find that their traditional approaches to organising time, in addition to their traditional approaches to pedagogy, will be challenged by the demand of working in decentred environments (Benade, 2017), often requiring further professional development as discussed earlier (see Gislason, 2018). The development of flexible spaces that bring large groups of students together with multiple teachers opens up the possibility for secondary schools of integrating previously siloed curriculum approaches (McPhail, 2016; Wright, 2017). Students may, however, be uncomfortable with structuring their own time and routines of learning. While Msapenda and Hudson (2013) found that students generally enjoyed the flexibility of curriculum and timetabling facilitated by ILEs, they identified, however, that some students were unable to successfully manage the environment, and found the increased responsibility demotivating. Although it can be difficult for students to adjust to the increased instances of self-direction and collaboration afforded by an ILE, particularly if transitioning from traditional classrooms (Msapenda & Hudson, 2013), these skills are better suited to and align more firmly with the expectations on a 21st century learner (OECD, 2013; Saltmarsh et al., 2015). These difficulties do require consideration and a realignment of thinking, although they are refreshing challenges as opposed to the lack of opportunity for deeper learning provided by the rigid standardised organisational models of traditional schooling methods.

Conclusion

To the extent that a full picture can be compiled, there is current research that observes the effectiveness of ILEs in providing personalisation and deeper learning opportunities, however, there is less research describing that relationship with flexible approaches to organisational practices. While there is considerable discussion around the physical design of ILEs, there is limited consideration around the effective development of organisational structures within these environments, specifically time structuring and allocation (French et al, 2020). Scheduling can

be acknowledged as an integral aspect of school design (Blackmore et al., 2011; OECD, 2013) and represents the underpinning vision and values of a school (Wright, 2017), but there is not necessarily a ‘one-size-fits-all’ approach to implementing these structures. Gaps have been identified in the literature in how people are using and engaging with these aspects of innovative spaces (Blackmore et al., 2011; Saltmarsh et al., 2015) and observations of ILEs have been made with only relatively brief reference to flexible scheduling practices (see Benade, 2017; McPhail, 2016; French et al, 2020; Wright, 2017). These observations, however, are not necessarily carried out with the specific focus on how timetables function within ILEs and their effect on personalisation and deep learning opportunities, alongside resulting student and teacher experiences within these structures. In their discourse on power, inequality and pupil consultation, Arnot and Reay (2007) argue that student perspectives are not independent variables which can be used for school improvement, but “they can offer insights into the rules which govern the organisation of teaching and the social inequalities associated with learning” (p. 319). This study seeks to begin filling the gap by developing understanding around how school organisational structures are being implemented in ILEs and teacher and student experiences within these innovative approaches to scheduling. Subsequent chapters of this research will discuss the relationship and relevance of the literature discussed here with the experiences and perceptions of this study’s participants.

Chapter Three: Methodology

Introduction

Fundamental to any researcher embarking on a new investigation is a coherent and rigorous design that outlines the philosophy, paradigms, principles and methodology within which the research is contextually situated (Newby, 2014). Worldviews, designs, and methods all contribute to a research approach (Creswell et al., 2018), while the lack of a detailed research design can lead to inadequate research that fails to fulfil its purpose (Gorard, 2017). Research designs are defined by Blaikie (2000) as “an integrated statement of and justification for the technical decisions involved in planning a research project” (p. 15). In contrast to this, Gorard suggests that a research design should be at a higher level of thinking, not solely a construct for choosing and justifying the technical decisions of methods and research techniques. Another approach could accommodate both these positions, suggests theoretical, methodological and ethical considerations are three connected yet interdependent elements that should comprise a research design (Cheek, 2008). This loosely aligns with the three elements previously mentioned of: worldview, design and methodology (Creswell, 2018). This chapter, therefore, articulates the conceptual and theoretical framework influenced by my ontological and epistemological perspectives, providing the rationale motivating my design and methodological choices, including detailed description of the technical boundaries within which the research will be conducted and the ethical considerations of these choices.

Research philosophy

Whether intentionally or otherwise, researchers work within “the context of a particular set of theoretical ideas and ontological and epistemological assumptions” (Blaikie, 2000, p. 19). These ideas and assumptions are the foundation for the methodological choices made in a research project. Clough and Nutbrown (2012) suggest that since research is carried out by people, “it is inevitable that the standpoint of the researcher is a fundamental platform on which enquiry is developed” (p. 10). Both Clough and Nutbrown (2012) and Cohen et al. (2017) seem to agree that foundational to developing any methodology is an ontological and epistemological understanding. This is further supported by Morrison (2012) who suggests “methodology is based upon critical thinking about the nature of reality and how we can understand it” (p. 15). A researcher must understand their own philosophical constructs and beliefs concerning reality and knowledge before developing a methodology and research methods (Daniel & Harland, 2017).

It has been argued that ontology is “the starting point of all research” (Grix, 2002, p. 177) and can be defined as the study of being and reality, where epistemology refers to how we can come

to know something (Daniel & Harland, 2017). Research paradigms are sets of beliefs, or ontological and epistemological assumptions, which researchers often draw upon in their research. Through establishing accepted rules and processes, paradigms can shape how research might be “understood, patterned, reasoned and compiled” (Morrison, 2012, p. 16), and can clarify how a researcher approaches and organises their research. Due to the complex nature of human experience and understanding, no two people will have the same philosophical and theoretical background (Daniel & Harland, 2017) thus there are a profusion of varying paradigms and their subsets. Three are frequently used and referred to in varying representations; positivism, constructivism/interpretivism, and critical/transformational (Morrison, 2012; Guba & Lincoln, 1994).

Positivist research is shaped by realism and a view that reality is independent of human knowledge and experience (Daniel & Harland, 2017; Newby, 2014). It adopts methods based on the natural sciences and is perceived as being objective and value free. In constructivist and interpretivist approaches, reality (knowledge) is understood as a product of human construction and is seen as being interpreted individually. Constructivist philosophies are closely linked to phenomenological and hermeneutic approaches to research. Critical or transformational theories posit that reality (knowledge) is socially constructed and can be understood through the connection of knowledge and power. These three are by no means exhaustive nor can they be conclusively defined, rather they represent paradigms that are more commonly adopted. Other important paradigms include pragmatism, critical realism and indigenous paradigms. There is no way to prove that one paradigm is superior to another, only that one is more appropriate than another according to the philosophical perspective of the researcher (Daniel & Harland, 2017).

My research is based on the assumption that there are multiple socially constructed beliefs and values which are shaped by ideological forces. This can result in the privilege of some and the under-representation of others leading to the crystallisation of social structures. This leads to my epistemological understanding that knowledge is subjective, value laden and not separated from power. The existence of an objective truth that can be discovered is a common epistemological perspective held by researchers working from a positivist framework (Daniel & Harland, 2017). Those with subjective perspectives reject this notion of a discoverable objective truth, instead viewing meanings as being ‘imported’ onto an object by the subject (Crotty, 1998; Daniel & Harland, 2017). Bhattacharya (2008) and Crotty (1998) highlight that subjective research is customarily affiliated with constructivist approaches such as phenomenology and interpretivism, however Crotty (1998) attributes this to a misinterpretation of subjectivity and constructionism. Constructionism states that meaning is constructed and this is through people’s “engagement with the realities in the world” (Crotty, 1998, p. 15). This difference between meaning being imported and meaning being constructed provides an important distinction between the two philosophies.

Subjective and constructionist philosophies tend toward qualitative approaches, whereas quantitative research approaches are largely associated with positivism (Daniel & Harland, 2017). Due to the subjective underpinnings of this research, a qualitative approach to research has been adopted, acknowledging that people can subscribe to different interpretations and truths of their reality and these are important for the researcher to uncover (Newby, 2014). Rather than attempting to discover one absolute truth, through this research I seek to understand different perspectives and experiences of the phenomena in question. This commitment to a qualitative research approach largely precludes any positivist philosophical approaches. These take their model from the natural sciences which accept that knowledge is obtainable through the collection of observable and verifiable facts (Morrison, 2012). Alternatively, qualitative research approaches are often affiliated with interpretivist paradigms (Bhattacharya, 2008; Daniel & Harland, 2017). Indeed, Bhattacharya (2008) contends that “qualitative understanding of any phenomena is based in making meaning of specific experiences and, therefore, is inherently an interpretive practice” (p. 465). It can also be argued that although all qualitative approaches may involve interpretive practice, not all qualitative research arises from interpretivist or phenomenological paradigms. Phenomenological and constructionist paradigms do not align with the ontological perspective of this research due to their inherent avoidance of power terms and lack of discussion around ideological constructs (Benner, 2012). Cohen et al. (2012) suggest the danger of these approaches is their neglect to acknowledge “the power of external – structural – forces to shape behaviour and events” (p. 24).

Critical theory

The critique of ideological influences on social structures while seeking to uncover discourse that promotes inequality and inhibits liberation are practices entrenched in critical theory (Budd, 2012; Cohen et al., 2017; Foucault, 1998; Newby, 2014). Habermas (2021) referred to critical theory as necessary to social change. One common goal of critical theories is to critique social norms and structures and use the criticism to push toward social change (Winkle-Wagner et al., 2018). This directly relates to the goal of my research to critique current school organisational structures and investigate if alternative approaches are an equitable and compelling alternative to the current ‘norm’. The emergence of critical theory can be attributed to philosophers of the Frankfurt School in the 1930s. Notable philosophers of this theory are Max Horkheimer, Herbert Marcuse and Theodor Adorno who challenged traditional history as being told from the perspective of the victors and for viewing the past as a linear narrative (Felluga, 2015). Important to these philosophers was the role of history and analysis leading to “understanding of the social situatedness of contemporary social life” (Budd, 2012, p. 176). Also important to the development of critical theory are the works of Jürgen Habermas who emphasised the importance of language in analysing society (Budd, 2012). Seeking to analyse and critique

contemporary society and rejecting ‘grand narratives’ led to a focus of uncovering the stories of marginalised groups for the purpose of critiquing ideological forces on culture (Budd, 2012, Felluga, 2015). This can be seen in the work of Paulo Freire (2005) who is largely credited for first applying critical theory in educational or pedagogical contexts.

Post-structuralism and post-modernism are sometimes associated with critical theory (Guba & Lincoln, 1994) and many elements of these philosophies are certainly congruent. Critical theory, along with post-structuralism and post-modernism, reject any ‘grand’ narratives that attempt to explain history through “a single overarching rubric” (Felluga, 2015, p. 122). Walter Benjamin as cited by Felluga (2015) explains:

Historicism contents itself with establishing a causal connection between various moments in history. But no fact that is a cause is for that very reason historical. It became historical posthumously, as it were, through events that may be separated from it by thousands of years. A historian who takes this as his point of departure stops telling the sequence of events like the beads of a rosary. Instead, he grasps the constellation which his own era has formed with a definite earlier one. Thus he establishes a conception of the present as the ‘time of the now’ which is shot through with chips of Messianic time. (Benjamin, 1968, p. 263 as cited by Felluga, 2015, p. 137)

Jean-François Lyotard, a postmodernist, coined the idea of a ‘grand narrative’, which was also adopted by Foucault, who, despite never regarding himself as a poststructuralist, was particularly influential on poststructural perspectives (Fawcett, 2012). Foucault instead focused on understanding reality through ‘discourses’ or understanding history through many alternate and competing interpretations of the world (Felluga, 2015). Discourse, from a Foucauldian perspective, could be defined as “ways of constituting knowledge, together with the social practices, forms of subjectivity and power relations which inhere in such knowledges and relations between them” (Weedon, 1987). Foucault argued that “discourse transmits and produces power; it reinforces it, but also undermines and exposes it, renders it fragile and makes it possible to thwart” (Foucault, 1998). This close relationship identified by Foucault between discourse and power is the adopted understanding of ‘discourse’ throughout this study. It has been argued that the critical theorist’s view of subjectivity is that the “naturalised and transcendent version of the subject that developed over the course of the nineteenth century is really an ideological construction that serves the interests of particular groups, mainly that of the rising middle class” (Felluga, 2015, p. xvi), however these lived experiences are still important to uncover and can further highlight alternate subjectivities that may be encountered. Freire (2005) also focuses on the lived experiences of the oppressed rather than any ‘grand narratives’ purported by the system he was working in.

Post-structuralism, post-modernism and critical theory, all seek to uncover ideological constructs that both implicitly and explicitly affect society. Agger (1991) also highlights the

overlap between these philosophies in their intention to uncover false consciousness and deepened ideologies. An ideology can be described as “a set of ideas associated with a particular social group that articulates their interests and view of the world” (SAGE, n.d., para. 1). Ideologies function as an underlying structure that influences the accepted conventions and cultures that make up the primary ideas of a society (Felluga, 2015). Horkheimer also described ideologies as;

Every human way of acting which hides the true nature of society, built as it is on contraries, is ideological, and the claim that philosophical, moral, and religious acts of faith, scientific theories, legal maxims, and cultural institutions have this function is not an attack on the character of those who originate them but only states the objective role such realities play in society. (Horkheimer, 1982, p.7)

Ideological constructs become a part of the fabric of society, legitimising political and social behaviours eventually resulting in social groups being subjected to varying levels of subordination, whether intentionally or not (Burns, 2010).

My ontological and epistemological underpinnings lean toward adopting a critical theoretical approach independent of post-structuralism and postmodernism. The term ‘postmodernism’ covers many perspectives, thus becoming difficult to define. This very broadness and defiance of clear definition, however, makes postmodernism a challenging and vast philosophical standpoint to research within, and even postmodern philosophers often debate the boundaries and expectations of the paradigm (Olssen, 2008). Post-structuralism views all claims as relative, making it difficult to “take an ethical position and to recognise and address social justice” (Fawcett, 2008, p. 670). Some poststructuralist notions are relevant to this study, such as identity, power and knowledge formation linking to discourse, and methods of deconstructing discourse, however it can be argued these overlap all three paradigms and are also evident in the work of critical theorists (Agger, 1991). Critical theory has been argued as a paradigm that jeopardises its aim of effecting change through its tendency towards contemplative reasoning or ‘armchair philosophizing’ (Cohen et al., 2017). Habermas (2021) was also concerned with the tendency of critical theory to merely criticise without any move toward social change and suggested making action or ‘praxis’ the central element to the theory. Alternatively, Newby (2014) suggests the purpose of research done within a critical framework may not demand change but expose the need for it, allowing for action through broadening knowledge economies. This seems to align with Freire’s (2005) notion of conscientização (conscientisation), or encouraging social beings in learning to perceive social, political and economic traditions.

Illich, Foucault and Freire

It could be argued that the most deeply embedded ideologies are the most successful and are least obvious in their influence (Budd, 2008). School organisation is often overlooked as a social framework that inherently seeks to regulate movement and impose an “obligatory rhythm” (Foucault, 1979, p. 152). As discussed previously in the literature review, Foucault’s (1979) theories on the control of activity involve observations of the “micro-physics of power” (p. 139) using techniques to subject and regulate in order to minimise what is perceived as wasted time. As mentioned previously in Chapter 2, Illich (1995) also refers to use of such techniques or “rituals” in a school setting to be examples of a “hidden curriculum” (p. 48). Paulo Freire (2005) was alert to how those within these types of social frameworks confuse freedom with the maintenance of the status quo, specifically highlighting how the traditional didactic approach of teaching (‘banking education’), removes autonomy from the student. The quality of inquiry founded on critical theory can be judged by “the extent to which the inquiry acts to erode ignorance and misapprehensions, and the extent to which it provides a stimulus to actions, that is, to the transformation of the existing structure” (Guba & Lincoln, 1994, p. 114). In this study, I seek to highlight the underlying ideological interests of school organisation practices and to ascertain whether innovative approaches to organisation provide a compelling alternative to the traditional model.

Methodology

There are varying opinions as to what methodology is and its purpose within research. Clough and Nutbrown (2012) claim that trying to produce a definitive explanation of methodology as used in the social sciences “is rather like trying to catch water in a net” (p. 36). Common themes that can be identified in many descriptions, however, are those of justification and critical thinking (Clough & Nutbrown, 2012; Morrison, 2012), as in Scott and Morrison’s description:

Methodology is the theory (or set of ideas about the relationship between phenomena) of how researchers gain knowledge in research contexts and why. The ‘why’ question is critical since it is through methodological understanding that researchers and readers of research are provided with a rationale to explain the reasons for using specific strategies and methods in order to construct, collect, and develop particular kinds of knowledge about educational phenomena (Scott & Morrison, 2005, p. 153, parenthesis in original text).

In simple terms, a methodological rationale provides researchers with underlying reasons for their research choices.

It is also important to discern the differences between research methodology and research methods. These terms are not interchangeable and represent different elements within a study. Methodologies describe the rationale behind method choices, whereas research methods refer to

the tools and processes used to gather and analyse data for answering the research question (Newby, 2014). Cohen et al. (2017) align themselves with the explanation of Hitchcock and Hughes (1995) who suggest that “ontological assumptions give rise to epistemological assumptions; these in turn, give rise to methodological considerations; and these, in turn give rise to issues of instrumentation and data collection” (p. 3). This highlights one approach, adopted by this study, which is the linear, yet interdependent nature of theoretical and methodological aspects of research.

Case study

Considering this, a methodology should have its foundation in the ontological and epistemological perspectives of the research (Clough & Nutbrown, 2012). In relation to this study, these theoretical considerations contribute to the critical theory paradigm underlying this research. Understanding not only what people do, but also what motivates the actions and behaviours of people is integral to critical theory in research (Budd, 2012). The complex nature of humans alongside the intricate construction of organisational structures in schools signified the collection of detailed data through multiple methods was required for this study. According to Chadderton and Torrance (2011), the strength of case study is that it can take a phenomena and “use multiple methods and data sources to explore it and interrogate it” (p. 54). A case study approach was selected for its affinity to descriptive qualitative goals and in-depth investigation (Yin, 2009). Yin specifically indicated the case study as an effective means for understanding organisational processes whilst detailed description was necessary to understand the relationship between innovative pedagogical practices, organisational structures and innovative building design central to this research.

Case study is the generally preferred method for examining ‘real-life’ phenomena in a situation where the researcher has little influence over events and where a detailed understanding of the phenomena is desired (Newby, 2014; Yin, 2009). Case study research, however, has a wide variety of applications in research design influenced by varying methodological approaches and underpinning ontological and epistemological orientations. Blatter (2012) identified that “there is no consensus on the basic characteristics of case studies” (p. 108) and this seems to be corroborated by popular case study researchers such as Yin (2009) and Stake (1995). Chadderton and Torrance (2011) state that “case study is not easily summarised as a single, coherent form of educational or social research, rather it is an ‘approach’ to research which has been fed by many different theoretical tributaries” (p. 53). Consequently, case study research is utilised by qualitative, quantitative and pragmatic researchers for its flexible application and variation between research studies (Harrison et al., 2017).

In order to strengthen the methodological approach, understanding different approaches to case study was important before defining the boundaries of my research. Yin (2009), Stake (1995), and Merriam (2009), are considered to be three significant case study researchers who have all developed varying approaches to this research approach (Harrison et al., 2017). Where Stake (1995) used a constructivist orientation to case study, focusing on what was being studied rather than how it was being studied. Yin (2009) drew on a more historically scientific approach to case study, “[Yin] applied experimental logic to naturalistic inquiry, and blended this with qualitative methods” (Harrison et al., 2017, p. 6), thus applying a post-positivist perspective with an emphasis on empirical inquiry. Merriam (2009) drew on the work of both Yin and Stake, highlighting the purpose and qualitative nature of case study research. Merriam also “promoted the use of a theoretical framework or research questions to guide the case study and organised systematic data collection to manage the process of inquiry” (Harrison et al., 2017, p. 8) although she was not as positivist in her approach as Yin (2009).

Another approach suggested by Chadderton and Torrance (2011), is case study can be used to “focus on the social construction of the case, the site of the social/educational encounter and the nature of the case as realised in social action” (p. 53). Although this approach is not antithetical to Yin and Merriam, the approach tends to draw closer to Stake’s more constructivist approach. This view of case study is that it is “an approach to research which seeks to engage with and report the complexity of social and educational activity, in order to represent the meanings that individual social actors bring to those settings and manufacture in them” (Chadderton & Torrance, 2011, p. 53). Thus rather than studying individuals or participants involved in the research and considering them as elements of the phenomena, the study seeks to understand what ‘the case’ or phenomena looks like from each individual’s perspective and ideological foundation. This approach most aligns with my research philosophy that there are multiple socially constructed beliefs and values which are shaped by ideological forces and the subjective nature of knowledge. Focusing on the social construction of the case allows the validity of different perspectives of the phenomena and enables the acknowledgement of ideological and social constructs shaping these perspectives. This research has also drawn in part from Merriam’s case study research, using both the qualitative, critical theoretical framework to guide the study and the use of systematic data collection to manage the inquiry.

Newby (2014) identified exploration, explanation, and description as the three purposes for which case studies can be used: an explorative case study is used to establish understanding of a phenomenon, an explanatory case study initially begins with an assumption or to answer a specific question about something that may have already occurred, and a descriptive case study is used to describe or record a situation (Newby, 2014). With my interest in understanding the nature of alternative approaches to school organisation and timetable, my research is most consistent with an exploratory case study. Another characteristic of case studies is how they are

implemented and words such as single, multiple, holistic and embedded are commonly used to describe this (Newby, 2014). This can be confusing as these words can be describing participants, research sites, and phenomena themselves. Newby (2014) suggests a single case study is used to investigate one instance of a phenomenon only and a multiple case study can be designed to be repetitive over time, or comparative. This study is not repetitive or comparative, as the characteristics are not “deliberately and knowingly varied in order to assess the significance of the difference” (Newby, 2014, p. 56). Despite gathering data from multiple sites, this study still aligns with the intentions of a single case study, investigating how one specific phenomena is realised at two different sites. The study also overlaps with the intentions of an embedded study where characteristics of the organisation are considered in detail (Newby, 2014).

A key consideration when designing a case study is whether to focus on depth versus breadth. Chadderton and Torrance (2011) suggest the strength and logic of case study implies that depth is the most compelling choice. Initially, the intention for this research study was to adopt a single embedded case study approach focusing on one site and the experiences of participants within that site. After collecting data from the first site, however, the study was expanded to allow more scope within the research for further collection from an additional site and further participants. This allowed the study to increase from a case study with one site to a multi-site case study as described in Chadderton and Torrance (2011). The study was still an exploratory embedded case study, however, it engaged with multiple participants at two case study schools who were both demonstrating the phenomena being researched. Further discussion around these design adaptations and rationale is detailed below in my reflection and following data collection section. Case studies have been criticised for lack of rigour and for being susceptible to allowing biased views to influence the direction of the findings and conclusions (Yin, 2009). This is a valid concern which has been largely mitigated in this study through the use of systematic procedures, triangulation of data and repeated reference to the methodology underpinning the research. Further comment around the systematic procedures used are discussed below in the data collection and ethical considerations segments of this methodology.

Reflection

Winkle-Wagner et al. (2018) suggest that critical theory approaches are embedded and emphasized in critical inquiry data collection processes through, “the roles that researchers and participants play in the research process, the practices that are used in the data collection process, the form of reporting or representation of the data, and the self-reflection or reflexivity of the researcher” (p. 24). Before continuing onto the data collection methods adopted in this research, it is important to reflect on the significant changes to data collection and the overall research design that was implemented part way through this study. An important factor in

applying critical theory to data collection, according to Winkle-Wagner et al. (2018), is in the reflexivity of the research. Reflection was a key element of developing the data collection process in my research and due to this the overall design process became reiterative and reflexive to better suit the needs of the research questions and improve the overall quality.

Initially, as mentioned previously, my research was a single-site case study focused within one school, or data collection site for the purpose of fulfilling the requirements of a Master's dissertation with a smaller scope. Interviews were conducted with one senior leader and two teachers, while one senior student was both observed for a day and interviewed following that. Upon beginning the data analysis process, it quickly became apparent that there were many relevant elements that had arisen through this research, but there was not necessarily a clear focus on the main research questions and limited space within the findings and discussion chapters to fully explore the data. This led to the recruitment of a second case study site, but also meant that the opportunity now existed to upgrade the research to a thesis. This had the advantage of allowing engagement in deeper analysis and reaching more robust conclusions based on the wider findings, also enhancing the triangulation process. It also provided opportunity for participants' narratives to be fully realised and understood in the findings of the research.

Returning to Winkle-Wagner et al. (2018), crucial to critical theory is the role that researchers and the participants play in the research process. Through the initial data collection process, an important research relationship had developed between myself and the participants based on trust. The participants trusted me to share their stories and voices on matters both I and they considered to be important to their teaching and learning environments. I felt in light of this and in the representation of the phenomenon according to my research philosophy that increasing the scope of the research was the most appropriate course of action. This allowed for the full exploration of the findings and more thorough corroboration of data to ensure that a rigorous and coherent research approach was being implemented. Consent for the necessary changes was sought from AUTECH and approved before implementing any changes in the data collection process (see Appendix 2).

Data collection

A wide array of data collection methods can be adopted for use within a case study including both qualitative and quantitative approaches (Creswell et al., 2018). Chadderton and Torrance (2011) state that "the strength of case study is that it can take an example of an activity and use multiple methods and data sources to explore it and interrogate it" (p. 54). They also suggest most commonly used data collections methods are interviews, documentary analysis and observation. A range of methods for collecting appropriate data are also adopted by critical

theorists. It has been suggested that each method used independently is not satisfactory in gathering sufficient data for applying critical theory (Budd, 2012) and is also noted as not being a rigorous approach to research within a case study (Yin, 2009). Cohen et al. (2017) and Yin (2009) discuss triangulation as vital for both the quality and validity of research. Triangulation involves collecting data from more than one source using varying methods which provides a process of corroboration and ensures that reliable inferences can be derived from the data (Cohen et al., 2017). Observation, interviews and documentary analysis were selected as the qualitative methods appropriate for this study which Vagle (2016) confirms are key ways to gather data.

Participant recruitment

A purposive sampling strategy was employed in this research. Merriam and Tisdell (2016) suggest that purposive sampling is “based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned” (p. 96). Findings from a small sample cannot claim to be generalisable, however they do offer “a starting point in which themes, questions and concerns emerge” (Brown et al., 2020, p. 766). This system of sampling also aligns with qualitative research approaches, is frequently made use of in case study research and is useful for targeting specific information (Cohen et al., 2017).

Initially, a single case study school was selected to investigate the phenomena focusing on one instance of the phenomena. Due to the change of the study, two case study schools were selected. This allowed the research to observe two alternate approaches to innovative school organisation and satisfy the research aims of understanding innovative approaches to school organisation. This also allowed a more thorough approach to corroborating and triangulating the data. Three criteria were identified in selecting the case study schools, it was necessary that the schools:

- (1) Had established innovative learning environments as defined by the Innovative Learning Environment and Teacher Change project, as referred to in Chapter 2 (Mahat et al., 2018, p. 20),
- (2) Implemented an alternative approach to organisation and scheduling in contrast to the traditional organisational model,
- (3) Had at least two staff that had previously taught in traditional settings.

Participants within the school were identified based on their situation within the organisational structure. A student within each case study school was observed for a day, followed by an

interview. Two teachers were interviewed, as was the senior leader responsible for managing scheduling and curriculum allocation. By working with those participating in different capacities within the organisational structure of the school, data could be better corroborated and different perspectives could be voiced in answering the research questions. A number of school documents were also analysed to better understand some of the specifics around how time is allocated at each of the schools. Table 1 indicates the relationship between the research questions and the correlating methodological step or steps implemented to collect data.

Table 1

Data Collection Table

No.	Research Question	Methods of Data Collection
1	How do innovative pedagogical practices influence approaches to school organisation, in particular timetabling and how does innovative building design support these approaches?	<ul style="list-style-type: none"> • Semi-structured interview with senior leader • Interview with teachers
	Sub-questions	
a)	How do students and teachers experience these alternative approaches to school organisation in innovative learning environments?	<ul style="list-style-type: none"> • Interview with teachers • Observation of single senior student • Interview with observed student
b)	How is time being allocated by schools with innovative building design and what do these allocations signal?	Guided interview with senior leader. Documentation <i>(In addition to notes from observation)</i>
c)	Why are these innovative approaches to school organisation being implemented and are they a compelling alternative to the traditional organisational model?	Partly gleaned by collecting data through previously mentioned methods and partly through data analysis alongside researcher interpretation (Cohen et al., 2017).

Gathering data from these varying contexts provided a broad but targeted base of knowledge for analysis, avoiding any ‘grand narratives’ and focusing on the lived experience of those participating within the organisational structure.

Observation

Observation of “living conditions of individuals, the kinds of work being done and the places where the work is done, and spatial limitations that effectively limit movement, living space, and other kinds of existence” (Budd, 2008, p. 176) is a valid and necessary element of data collection within critical theory. Cohen et al. (2017) identify observation as an invaluable form

of data when rich, contextual, first-hand data is needed. Observation also enables the researcher to collect relevant information that may go otherwise unnoticed by participants making it difficult to gather exclusively through interviews (Robinson & Lai, 2005). Systematically exploring the school organisational practices from the perspective of a student was achieved through shadowing a student for a day. This took the form of a semi-structured, overt and non-participatory observation (McKernie, 2012; Robinson & Lai, 2005). A semi-structured observation allows the researcher to follow a schedule of issues but in a less predetermined or systematic manner allowing for flexibility within the observation whilst still being operationalised (Cohen et al, 2017). Weaknesses commonly identified with observations include observer bias, encroaching on personal space of participants and disturbing the natural environment (Cohen et al, 2017; McKernie, 2012). To mitigate these issues a clear observation schedule was implemented alongside a split-page method for taking notes (Robinson & Lai, 2005). This method allows for words and actions to be differentiated from observer inference, thus minimising observer bias and strengthening the validity of the research (Robinson & Lai, 2005). By taking a non-participatory role, the students and teachers were able to participate in their environment free from any limitations on personal space and learning.

Frustrations did arise from the observations during data collection. These were mainly through the presence of relievers at one school, Māhoe School, who influenced the experience of the observed student, and one block at Kōwhai School was dedicated to a literacy test which was also not representative of a typical day for a student at the school. These limitations could be mitigated in research with a larger scope that allowed for a more extended ethnographic approach to observation. Due to the scope and limitations of this research, however, the challenges of these observations were reflected on and taken into account during the data analysis phase of the research.

Interviews

As mentioned earlier, it is recommended that observation is supported by other methods of data collection to triangulate and “ensure that reliable inferences are derived from reliable data” (Cohen et al., 2017, p. 562). Interviews are frequently used in qualitative research and are a useful method for collecting rich data about what people think or believe about their experiences (Robinson & Lai, 2005). Interviews typically range from structured to unstructured, with semi-structured taking varying forms within this spectrum. O’Reilly (2012) suggests that qualitative interviews focused on understanding participants’ experiences should focus on being collaborative, flexible, and informal rather than structured interrogations. Semi-structured interviews allow the interviewer flexibility in altering the structure based on each individual interviewee whilst still relying on predetermined topics and questions (Cohen et al., 2017). I chose to conduct semi-structured interviews in this research in order to capture the experiences

and perspectives of the participants involved. Another common element of qualitative interviews is the use of open-ended questions which allow for space in the conversation and are more likely to invite participants to construct responses using their own ideas and language (Robinson & Lai, 2005). The questions I used to guide the interviews for this study were derived from key themes in the literature. Appendix 1 lists the indicative questions which were used as the basis for each interview. Interviews are often challenged for being time intensive, open to interviewer bias, inconvenient for respondents, interviewees may become fatigued and anonymity can be difficult to maintain (Bloor & Wood, 2011; Robinson & Lai, 2005). These issues were mitigated as much as possible through limiting each interview to a maximum of 60 minutes, which gave the respondents the opportunity to read through their transcript following the interview. I also took steps to ensure anonymity of the participants as detailed below. Due to the limited time available, a professional transcribed the interviews. The signed confidentiality agreement can be found in Appendix 2.

Document analysis

Using documentation as evidence strengthens credibility and contributes to minimising bias and is often combined with data from observations and interviews (Bowen, 2009). Both Merriam (2009) and Stake (1995) identify document analysis as useful in discovering relevant insights as part of a case study. Minimal document analysis was required for my research, however, the data collected from these documents (discussed below) was integral to understanding the structural make-up of each school's organisation. Bowen (2009) identifies organisational and institutional documents as being a staple of qualitative analysis but highlights the importance of a systematic reviewing or evaluating process. It is important that researchers understand and can identify the original purpose of a document, the context in which it was produced, and the intended audience (Bowen, 2009). Only two documents from each school were used for my research, but they were vital in understanding the context in which the participants were operating in, namely, the organisational structure of each school. They also provided supplementary data around the specific allocation of time and space, and some of the rationale behind these decisions as explained to the school community and parents. This was also valuable for my research in verifying findings and corroborating data collected from the interviews and observations. The documents I analysed mainly consisted of timetables that senior leadership use to allocate time and value elements from each schools' prospectus. The documents were either provided by the senior leader being interviewed or were readily available on the school website.

Data analysis

This study comes from a qualitative and critical foundation which typically involves a heuristic approach to analysis through the careful examination of ideological influences on human action and discourse (Budd, 2008). The intention of this study was not to provide generalisable data, but rather to investigate and understand school organisation at the social level of the participants. Qualitative studies typically offer:

A deeper analysis of a small number of participants as compared to quantitative studies, for instance, that attempt to generalize to larger populations. One of the primary ways that qualitative scholars can connect to larger social issues is through theory or conceptual transfer. That is, qualitative research does not intend to generalize to larger populations, and it is simply not the purpose of most qualitative research. Rather, qualitative research aims to delve deeply into everyday lived experiences, the meaning that people make from their lived experiences, and how processes or events might unfold in real time. (Winkle-Wagner et al., 2018, p. 26)

The aim of the analysis in this research is therefore to connect the qualitative data made up of individuals' lived experiences, to larger social structures, as aligns with a critical theory approach (Winkle-Wagner et al., 2018).

It is important with any qualitative data collection and analysis that the process is as rigorous and transparent as possible (Bowen, 2009). Before taking any notes, I read the transcripts through carefully as suggested by Vagle (2018), followed by another line-by-line reading taking further notes whilst intentionally referring to the methodological and theoretical underpinnings of the study, including any ideological influences on the discourse (Felluga, 2015). Vagle advocates implementing a whole-part-whole data analysis plan “whereby the whole, such as each transcript, is considered, relevant parts are extracted and these re-coupled to make a new whole” (Benade, 2016). These parts that are extracted make up ‘codes’. Miles et al. (2014) define codes as “labels that assign symbolic meaning to the descriptive or inferential information compiled during a study” (p. 71). Aspects of Vagle’s (2018) whole-part-whole approach to analysis were implemented through the reading of each transcript, developing broad codes from within the material which then are contributed further to with material from the data making up a new ‘whole’. This approach naturally tends towards the ‘In Vivo Coding’ style which is an inductive approach to analysis using participants’ own language to create codes (Miles et al., 2014). This is one of the most common approaches to coding and according to Miles et al. (2014) is appropriate for any qualitative research. Inductive analysis is considered to be empirically better grounded by avoiding *a priori* systems which attempt to shape data into pre-existing codes and allowing codes to emerge during data collection (Miles et al., 2014). NVIVO is a CAQDAS (Computer Assisted Qualitative Data Analysis Software) program which assists in the systematic organisation of data into codes in NVIVO, and was used to organise the raw data for this research. Although NVIVO can lend itself towards quick judgements, careful

consideration and care was taken to ensure meaning was not assumed. To avoid NVIVO shaping data, codes were only constructed after repeated examination of the transcripts and before shifting the transcripts to NVIVO, meaning the software simply assisted me in the manual task of assigning text to codes (Benade, 2016; Vagle, 2018).

Ethical considerations

This research was rigorously evaluated and approved by the Auckland University of Technology Ethics Committee (AUTC) (see Appendix 1). Brooks et al. (2014) suggest that “good research technique and ethical practice should not be viewed as in tension but, instead, as closely intertwined”. The Belmont Report, which was created for the protection of human subjects in research, has influenced ethics committees evaluating proposed research (Israel & Hay, 2006). The Belmont Report, as discussed by Israel and Hay (2006), suggests, respect for persons, beneficence, and justice as the three fundamental principles for ethical research. The basis for respect for persons is autonomy and all participants should be free to choose and act without any constraints imposed on them (Faden & Beauchamp, 1986). Fundamental to this is informed consent. Acquiring appropriate and properly informed consent is a key element of the AUTC approval process and was an important element of consideration for my research, particularly when working with students.

Participants in this study were fully informed of the purposes, processes, risks and benefits of this research through an information sheet prior to recruitment, (see Appendix 7 for an example) and an opportunity was provided to discuss questions and concerns before consent was given. Participants were also informed of their right to opt out at any stage of the research and given contact details to report any misconduct. One participant was below the age of 16. This meant appropriate informed consent was required from both the student and their guardian. The student’s guardian first gave consent before the student was recruited, followed by the student granting consent to be involved in this research. Before conducting any research, the students were given opportunity to discuss any concerns and ask any questions they had. Throughout the observations, I made sure to check each student was comfortable and allowed them the space required for their learning. There are varying levels of authority in a school situation. This needed to be considered and respected before recruiting any participants and including the school in my research. Confidentiality was insured for both the school and the participants through the generalisation of findings, the de-identification of all participants, school name and place. Careful recruitment processes also ensured all participation was as confidential as possible from others within the school (Cohen et al., 2017; Jensen, 2012). Confidentiality falls within the principle of beneficence, or doing no harm and maximising benefits to participants. The aim of critical theory research is to benefit people through its critical examination of ideologies and motivation to transform existing structures, and although this is an ambitious

goal for a small research study, a step toward this was made possible by providing participants with the findings of the research. Justice refers to fair recruitment and fair outcomes (Israel & Hay, 2006). Access to the case study was sought and approved by appropriate lines of authority (Jensen, 2012) before recruiting participants through word of mouth and advertisement (see Appendix 8). Data collection, analysis and interpretation were treated transparently, critically and honestly, ensuring fair outcomes. All participants were given the opportunity to check transcripts before analysis and all data has been submitted and stored securely at the Auckland University of Technology.

Conclusion

This chapter discussed the three elements described by Creswell et al. (2018) and Cheek (2008) that form a coherent and rigorous research design; theoretical, methodological and ethical. The theoretical perspective underpinning this study was discussed as being the critical theory paradigm drawing on Foucault's (1979) theories on control of activity and his perceptions of discourse, the 'hidden curriculum' as described by Illich (1995) and Freire's (2005) notions of 'banking education'. The methodology framing the research was described as a single exploratory multi-site case study implementing observation and interviews as qualitative research methods. A whole-part-whole approach to data analysis has been adopted and themes have been derived according to the reviewed literature and the critical theory paradigm. Ethical considerations involved in these decisions were examined alongside steps taken to mitigate them. Further discussion around the themes explored will be discussed in the following chapters.

Chapter Four: Findings

Introduction

The aim of this research study was to develop an understanding of how commitment to innovative education models influence approaches to school organisation, in particular timetabling and to ascertain whether innovative approaches to organisation provide an appropriate alternative to the traditional model. This thesis has so far explored the relationship between school organisation and learning environments as well as potential benefits of alternative approaches. The methodological framework has also been established and described, outlining the philosophical and practical approach of the study. This chapter reports the findings from the data collected from each school, grouped by themes. This chapter first presents the alternative approach each site has toward school organisation with information detailing the allocation of time within each school. This is corroborated throughout by the narratives and perspective of individual participants within each site, and documentation and observation notes gathered *in situ*. Most information was collated from a 2021 school timetable document from each school, a school learning summary provided by each Senior Leader, and further corroborated by interviews and observation with participants. Each site is presented separately before data is then aggregated into themes based on common elements found at both sites. Verbatim quotes are used to increase credibility and authenticity to the findings.

Participants

The following table (**Table 2**) outlines the site affiliation of each participant and their position within the school. Quotes are referenced with the pseudonym of each participant. In the common themes section of this chapter the school each participant is affiliated with will also be referenced. Quotes from documents will be referenced with a pseudonym for the document name and a D (document) to protect the anonymity of the school.

Table 2

Table of Participants

Psuedonym	School	Position
Nicola	Māhoe	Senior Leader
Michael	Māhoe	Teacher
Laura	Māhoe	Teacher
Madison	Māhoe	Student
James	Kōwhai	Senior Leader
Emma	Kōwhai	Teacher
Scott	Kōwhai	Teacher
Caitlin	Kōwhai	Student

Site 1: Māhoe School

This section reports on the organisational structure of Māhoe School¹. Māhoe is a New Zealand state co-educational secondary school which opened in 2014 and caters to approximately 700 students from Years 9 to 13. The school vision, design and organisation reflect a commitment to current international twenty-first-century learning discourse and the school leadership and staff consciously aim to confront established expectations of traditional schooling structures. The school is characterised by open-plan, flexible learning environments (New Zealand Ministry of Education, 2015), project-based learning and an emphasis on the school's vision of empowered and connected learners.

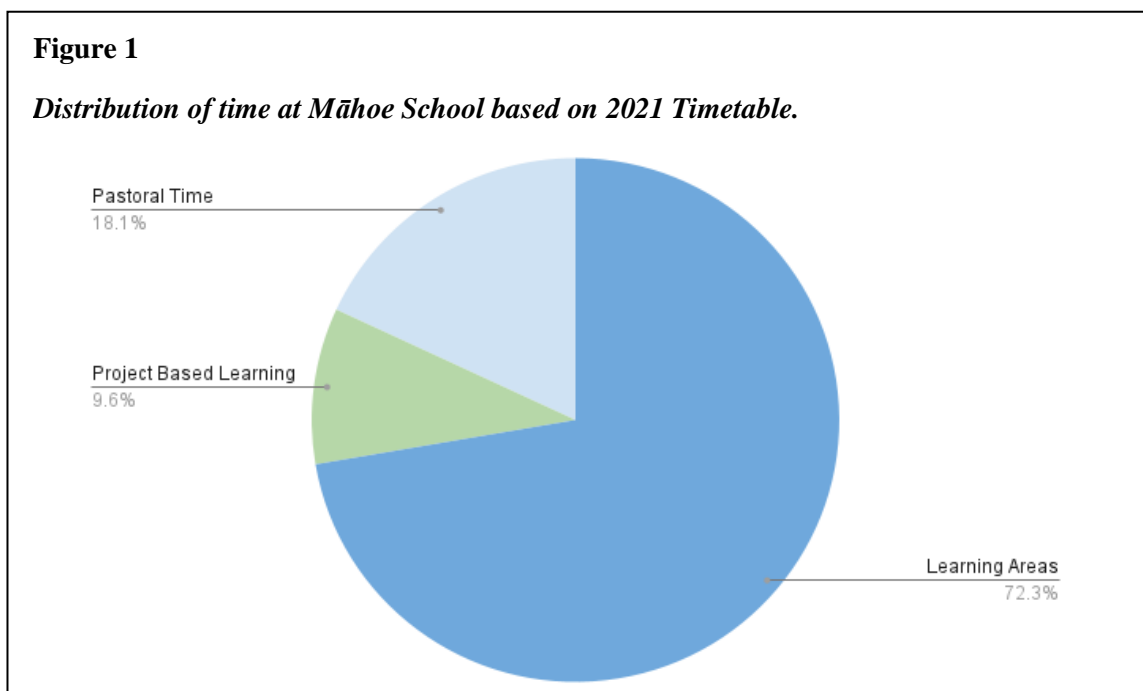
Organisationally, the school consists of a 'Junior Level' which typically includes all the school's Year 9s and 10s, or 13 to 15 year olds. The school also consists of 'Seniors' at Years 11 to 13, or 15 to 18 years olds. The 'Junior' two year levels take classes concurrently and the curriculum has been developed to cater to the needs of both levels simultaneously. Nicola stated that this decision was made due to the range of differentiation within the two years being very similar. She stated this "enables us to do slightly different things", and because the two groups follow the same timetable "that gives a bit of time back" (Nicola). Courses provided for the Seniors typically relate to Years 11 to 13, but can include students from any year level based on their ability and personal needs. The New Zealand National Certificate of Educational Achievement (NCEA)² Level 1 certification is not pursued although Level 1 standards are offered where desired.

The school day is divided into a series of four 80 minute blocks for both Juniors and Seniors. Each of these blocks relate to three main curriculum strands identified by the founding board and senior leadership, namely: Pastoral Time, Learning Areas and Projects. In addition to these three main areas, study time and social time are also elements of the school timetable. Time was allocated to the three main curriculum strands after the development of a learning model based on the school vision and values.

Figure 1 summarises the allocation of time at Māhoe School which is consistent across all year levels. Although the stated intention of the design was for the three curriculum areas to be equally valuable, the learning areas curriculum strand has been allocated significantly more time. This will be explored further later in the chapter.

¹ Note: As mentioned in Chapter 3, pseudonyms have been adopted for all schools, organisational elements and participants to protect anonymity and maintain confidentiality.

² NCEA is the main national qualification for secondary school students in New Zealand and consists of three levels, Level 1 typically coinciding with Year 11.



Pastoral time at Māhoe

This time is dedicated to pastoral care and academic coaching. Students are organised into communities which then branch further into smaller form classes under one pastoral teacher. These form classes are structured vertically rather than horizontally, consisting of students from each year level. Pastoral time consists of a set curriculum based learning around school values, health and wellbeing, as well as a variety of activities developed by the pastoral teacher and curriculum designers. The learning summary outlines the purpose of the curriculum in this time as being intended for developing ‘whole brain habits’:

In terms of vision of the school and the model of the school is why we want someone very closely supporting, monitoring and developing the whole person... We have actually given time so those things become part of a living curriculum. (Nicola)

Nicola’s comment explains the rationale behind Pastoral Time. Both the participant teachers perceived Pastoral time as being an important allocation of time and as aligning with the Pastoral values of the school with Michael stating:

[Pastoral time] is great..... We’re expected as a [Pastoral] coach to know these kids, have a good relationship with home, know what’s going on, be able to support them through things, reference them to the right people when they are facing issues. (Michael)

Although Madison, a student at Māhoe, said she enjoyed Pastoral Time and could see the value in much of the curriculum, she felt that some of the activities were not valuable uses of time and that the allocation could be 40 minutes rather than 80 per day, “so that you actually do what you’re meant to do, you develop relationships and stuff because it’s valuable time and not ‘oh,

I've still got an hour''' (Madison). Overall, 300 minutes per week are dedicated to Pastoral Time making up 18.1% of dedicated curriculum time and 15.3% of overall time students spend at school.

Learning areas at Māhoe

Learning areas take up the majority of the students' week with 1200 minutes, or 72.3% of curriculum time dedicated to this area and 61.2% of students' overall time spent at school. The time dedicated to the learning areas is applied in two distinct learning approaches: Personal Choice Topics and Units. Time spent in each of these approaches is allocated according to year level and individual needs. The most common allocations according to year level can be seen further below in **Figure 2**.

Units are a combination of two subjects, or New Zealand Curriculum learning areas, provided by two specialist teachers. Students choose units based on their own learning needs and interests. The intention behind units is to develop conceptual understanding that is closely connected to real world knowledge. The learning summary cites the New Zealand Curriculum as key to the development of this curriculum area as Units "make use of natural connections that exist between learning areas" (New Zealand Ministry of Education, 2007, p. 16). Students are also often able to develop their own projects within the allocated time that relate to the subjects covered. Madison commented "[Units] were so much fun. It's such a great way to learn" (Madison; Māhoe; S) and continued to state that she found calculus easier to learn within the context of physics.

Personal Choice Topics are single subjects taught by a single specialist teacher. Students are still able to choose the context for the subject but this selection is limited by what each teacher is offering for in the year. Nicola emphasised that although Personal Choice Topics tended toward more traditional teaching and learning norms, the school's vision is that conceptual learning and connections with other learning areas would still occur within the time. Participant teachers at the school, however, did comment that they tend to approach the special interest subjects more traditionally, particularly in the senior years. At Junior Level, students choose three Personal Choice Topics for two blocks a week, and three Units for three blocks a week. By Year 13, students have no Units and five Personal Choice Topics, or four with a study option (see **Figure 2** below).

Project time at Māhoe

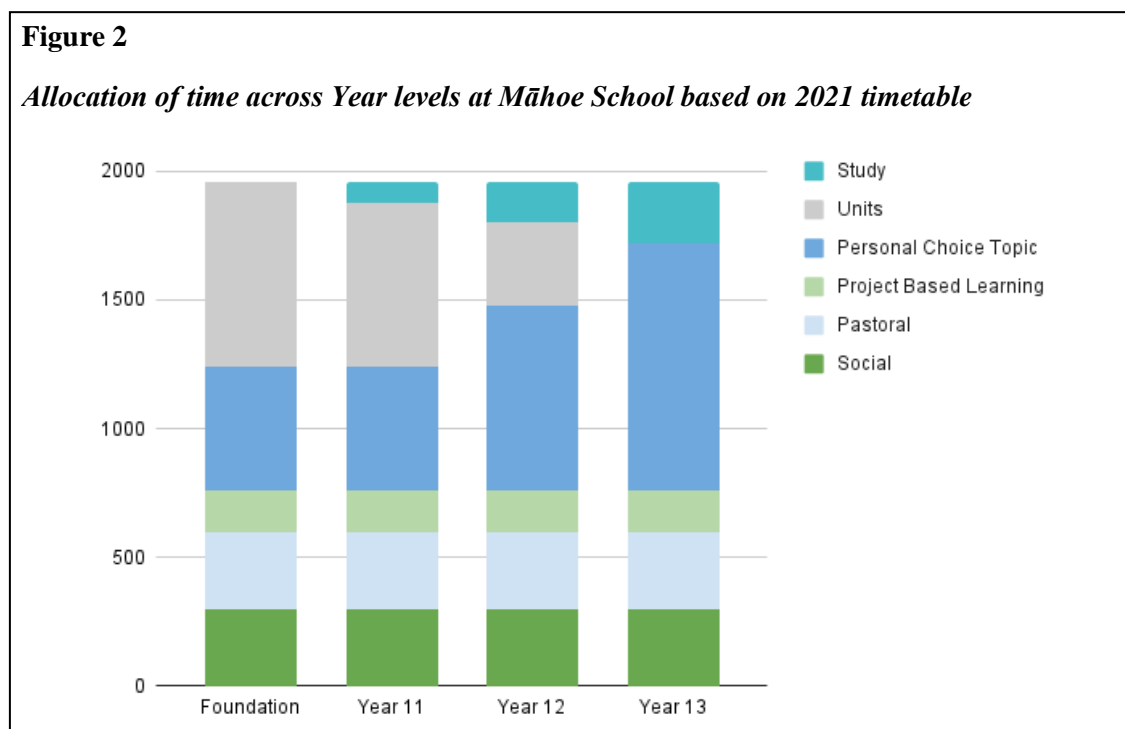
Project time consists of two blocks on a Wednesday which are dedicated to the "fairly accepted model of project based learning" as described by Nicola. Project time comprises 9.6% of

student curriculum time and 8.2% of their overall time spent at school. This time is where teachers or students can develop a real-world project which is largely student directed. These projects are usually at least one term long, although sometimes shorter, and are centred around the Project time curriculum focus of “Partnerships, Values and Pathways” (Learning Summary; D). Students choose which projects to take part in or may choose to design their own project. If desired, senior students are permitted to leave the campus to participate in gateway learning opportunities³, internships or tertiary level projects with appropriate permission.

Social time and Study time are not included in the curriculum learning model of the school but are nevertheless important aspects of student experience at school. Social time takes up 15.3% of students’ overall time at school. Social time is split between a 20 minute morning tea and 40 minute lunch period where students may use the time as desired on school campus, usually to eat, partake in extra-curricular school activities, rest and socialise.

As students continue at the school the allocation of time differs to include appropriate study time for seniors with the timetable altering to cater for their academic needs. Personal Choice Topics become increasingly structured to resemble traditional single subjects, and increase in frequency, while Unit classes reduce in frequency as students advance through the school.

The following graph (**Figure 2**) gives an indication of how time allocation is altered as students progress, showing the decreasing time allocated to Units and increasing time allocated to Personal Choice Topics and Study time.



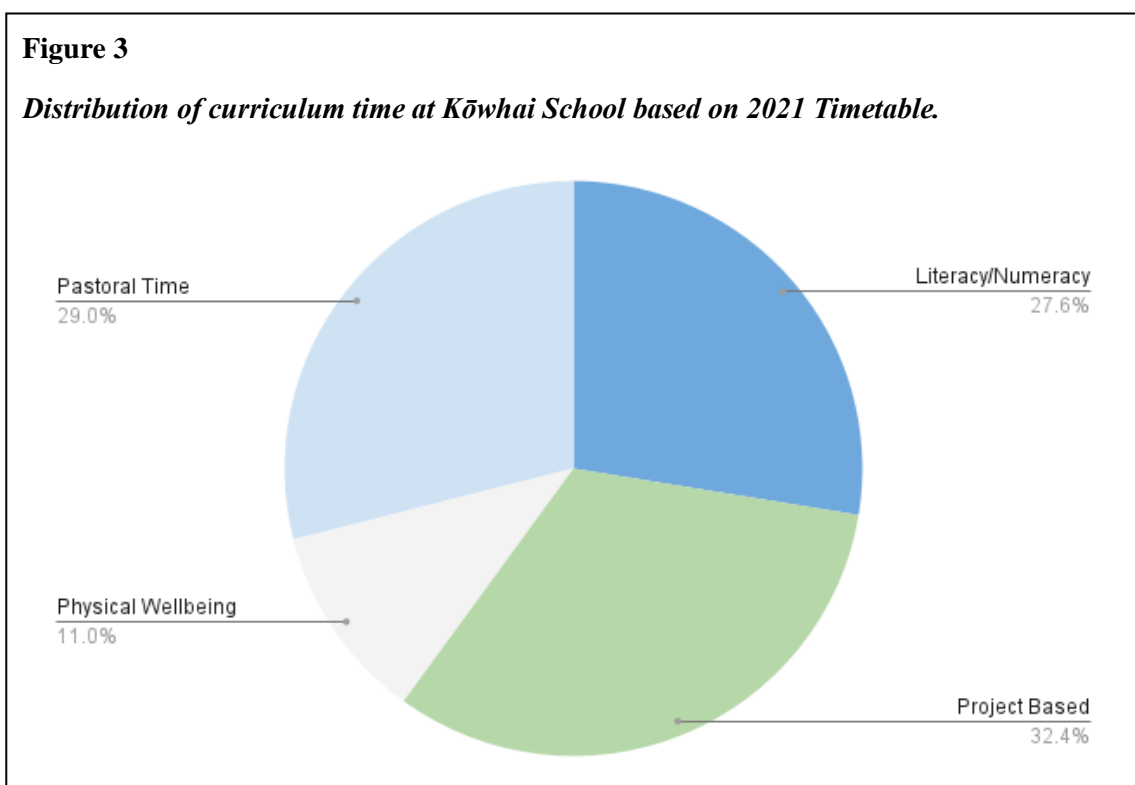
³ Gateway learning opportunities provide students with structured workplace learning outside of school facilities.

Site 2: Kōwhai School

This section reports on the organisational structure of Kōwhai School, a co-educational state junior college which opened in 2017 enrolling 600 learners from years 7 to 10, or 10 to 15 year olds. Much like Māhoe School, Kōwhai's school vision, design and organisation reflect a commitment to current international twenty-first-century learning discourse and the school organisation consciously confronts established expectations of traditional schooling structures. The school is characterised by open-plan, flexible learning environments (Ministry of Education, 2015), project-based learning with an emphasis on the school's vision of innovative and personalised learning.

The school is organised so that all year levels from Year 7 to 10 take classes concurrently allowing multi-leveilling. The design of the school curriculum enables students to work at their own level on self-directed personalised projects requiring teachers to cater to a range of learning needs. Due to Kōwhai School being a junior college, assessment is not structured around NCEA requirements. The school day is organised into four main curriculum areas: Pastoral Time, Literacy/Numeracy Labs, Physical Wellbeing and Project Based Learning. Time allocated to each of these areas varies with time slots ranging from 40 minute to 100 minute blocks. The learning model was developed around the school vision and beliefs which then influenced the organisational structure of the school.

Figure 3 summarises time allocation at Kōwhai, highlighting the four main curriculum areas. The time allocated to each area is relatively evenly divided.



Pastoral time at Kōwhai

This pastoral time is used to cater for the delivery of the social and emotional curriculum as well as academic coaching. Small groups of 20 students are designated to a single coach and make up a larger house or community that remains together for the four years throughout junior college. This time is used to teach students to think metacognitively about their learning journeys and the coach also oversees individual student progress and coverage of the curriculum strands. Emma described the pastoral time as follows:

I guess [it's] form class, but it's not just like 15 minutes of admin... Those students stay with me for four years, so it's building real relationships. I'm not just ticking a box for them. I'm making sure that whatever they need in their school life, I can help them with that.
(Emma)

Elements of this pastoral time are explicit instruction created by curriculum designers and other aspects are teacher or student led, the time also includes house activities. Caitlin found this time to be personally valuable, describing it as “setting the mood and atmosphere” for the rest of the day and providing her with a space where “you can share any worries, concerns, or your highlights” and find mutual support. Time allocated to this area is 420 minutes a week, contributing to 29% of learning time and 23.7% of the overall time students spend at school.

Physical wellbeing at Kōwhai

This area of curriculum time can be outlined as time for students to be physically aware, whether through exercise or mindful movement. Students choose an activity based on a selection of units offered with different purposes and contexts. James described this curriculum area as beyond just physical exercise:

It is aspiration driven, personal and physical development. Not to be confused with health and PE, but personal and physical development that is reflecting the growth that the learner sees and wants in themselves. (James)

Physical wellbeing takes 40 minutes per day, which is 11% of curriculum time and 9% of the overall time spent at school. James ascribed the rationale behind this particular allocation of time as being rooted in neuroscience, claiming that “physical blowout in the middle of the day helps to spark cognition” (James). This area of the curriculum was originally designed to be in the second block of the day before students have their numeracy and literacy blocks, however, due to roll growth some students have physical wellbeing in between the numeracy and literacy blocks.

Numeracy and literacy at Kōwhai

Students attend one block of numeracy and one of literacy teaching daily. These blocks alternate each day between 40-minute and 60-minute blocks. This means two short and two long blocks in each subject each week, resulting in 200 minutes per subject. This is 13.8% of the learning time for both numeracy and literacy, accruing to 27.6% of learning time dedicated to literacy and numeracy, and constituting 22.5% of student time spent at school.

Numeracy and literacy are based on a laboratory model where 50 students operate on a ‘tumble approach’ with one learning coach. Students receive explicit teaching from their learning coach at least twice a week and are expected to apply the knowledge learned to their individual learning plans or projects. These times tend to be more traditional in nature with many teachers adopting a workshop approach, with one teacher instructing a smaller group of 15 – 20 students. Students can opt into workshops where specific skills are taught, such as algebra or narrative writing. Due to the alternating short 40 minute block, the students do not always have an opportunity to apply the skills learnt directly and much of this time appears to be spent with the teacher talking and students taking notes.

Project-based learning at Kōwhai

The final block of every day, as well as the majority of each Friday, is dedicated to transdisciplinary project-based learning. This area of the curriculum is structured after an inquiry learning model where students pursue areas of inquiry that meet their own learning needs and interests. This makes up the majority of learning time at Kōwhai School with 470 minutes in total, constituting 32.4% of learning time and 26.5% of overall time spent at school. This time is almost entirely self-directed with students opting into courses that cover at least three learning areas and are grounded in real world authenticity.

Every day at Kōwhai, apart from Friday, consists of the four main curriculum areas allowing every student to access all four areas and the time dedicated to each area is relatively comparable. Friday consists of one block of pastoral time, followed by 140 minutes of project based learning, and finishes with 90 minutes of school ‘house’ activities giving a different focus to the day. Due to the multi-leveilling, there is no change in timetable between year groups. The only change, as mentioned, is half the school runs on a timetable where Physical Wellbeing is between Numeracy and Literacy rather than beforehand.

Common themes

In discussing each site's alternative approach to school organisation with participants, common themes emerged and were identified across the narratives and perceptions of the eight participants. These themes converge around three areas; specifically the design and implementation, teacher and student experience, and the outcomes of school organisation. Initially, the design of the school organisation will be presented, highlighting shared and contrasting influences behind decision making and the significance of space on the allocation of time. Following this, teacher and student experience of the structure will be related giving evidence of the implementation of the organisational design. Finally, some outcomes of the design and implementation will be articulated in relation to the experiences of the participants, particularly around implications and intention of the design in contrast to student and teacher realities.

Design and implementation

This first theme relates participant perspectives around the design and implementation of organisational models in ILEs. This section relies heavily on the experiences and perspectives of the senior leader at each school, as well as supporting learning documents and observation done within the school. Three distinct subthemes emerged through the discussion of the participants and are presented under the headings; design of the organisational model, innovative pedagogy in organisational design, and physical space and time allocation.

Design of organisational model

Both Nicola and James commented on the multiple factors contributing to the design of a school organisational structure, including both external and internal influences. Both senior leaders, however, emphasised a similar process in generating that structure, beginning with the underlying vision, values and beliefs of the school as a starting point. This was followed, in both schools, by close investigation of the New Zealand Curriculum, the development of a curriculum learning model and finally the structuring of an organisational model.

Nicola highlighted that Māhoe prioritised learning that was connected, visible and deep, while James emphasised effective and personalised teaching and learning at Kōwhai. Both leaders underlined the precedence of student-centred learning. These values can be seen as underpinning the entire structure development process and as an enduring factor influencing further decisions around how the structure is implemented at each school.

[We] wanted to ensure that the way time and space was used in the school reflected explicitly our beliefs around the principles and practices that sit behind effective teaching and learning. (James, Kōwhai)

There's a vision around stimulating inclusive, innovative, empowered learners. In all our work at the beginning was that some really important parts of that is teaching critical thinking, creative thinking, communication, collaboration etc., and the values we've got in our school. (Nicola, Māhoe)

Following the establishment of school vision, beliefs and values, both schools' foundational teams developed learning models through which the school curriculum would be experienced. The New Zealand Curriculum was analysed from the viewpoint of each school's vision ensuring the learning models reflected the requirements of the curriculum as a whole and the values of the school. James described how Kōwhai School approached the investigation:

The consideration then moved to how do we best group in a meaningful way elements of the New Zealand Curriculum in a way that gives greater agency to the student, but also greater realisation of the true essence of what the New Zealand curriculum was intending to set out and a true fusion of the front and the back ends of the document. (James, Kōwhai)

The learning summary from Māhoe also cites the New Zealand Curriculum as key to the development of their learning model, particularly prioritising the potential transdisciplinary nature of the curriculum within Learning Areas Time.

As earlier described, each school developed similar learning models, with Māhoe concentrating on three main curriculum areas and Kōwhai on four. Both schools have allocated time towards pastoral care, project based learning and targeted subject specific learning with the additional curriculum area of physical wellbeing at Kōwhai. Each school used their learning model as the driver for allocation of time. Nicola explains the thought process behind the time allocation:

Our work was around saying what do we want the learning to look like?... we've got these three main strands for a curriculum model, what does that time need to be to facilitate us to do that? How is time allocated to support the learning model that we want? (Nicola, Māhoe)

Innovative pedagogy in organisational design

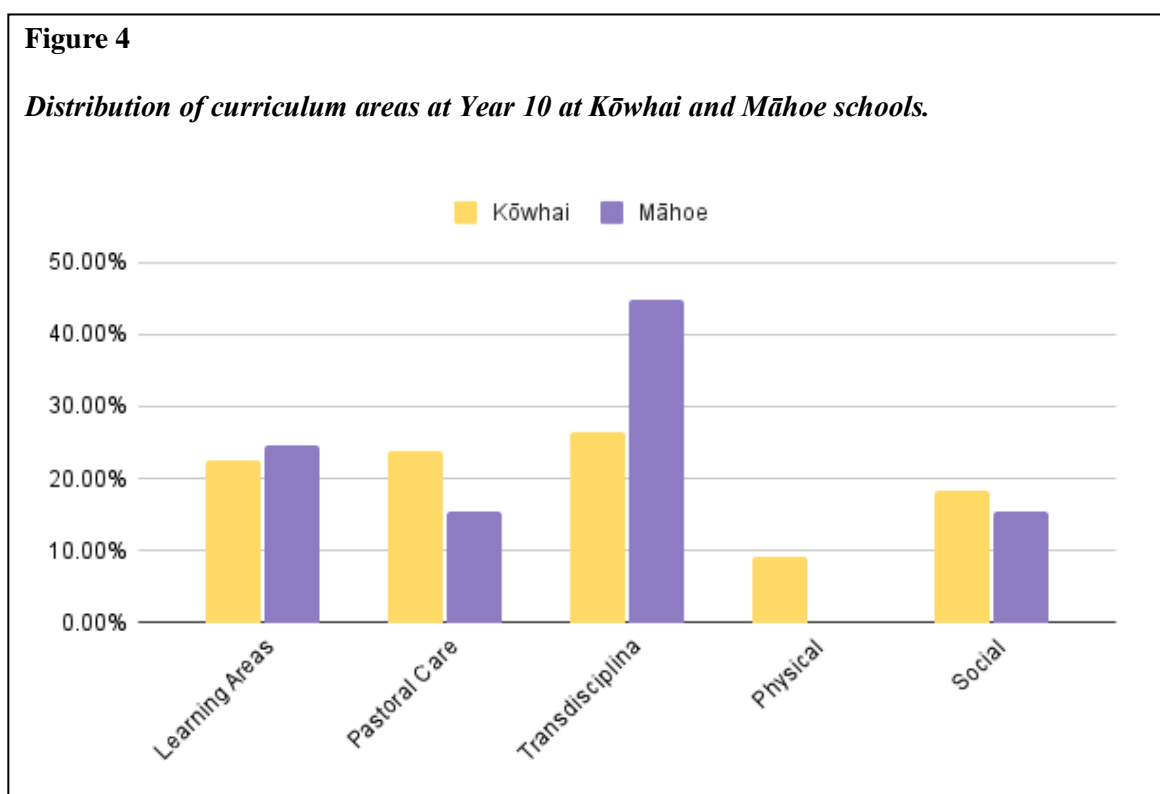
Each senior leader expressed the difficulty of developing alternative timetables that are embedded in values and innovative pedagogy rather than tradition, as Nicola stated, "a school timetable is always very, very complicated behind the scenes" (Nicola; Māhoe). James felt the traditional method would be the more convenient approach to implement, although he contended that "easy doesn't always mean best" (James; Kōwhai). James continued to articulate

how the values and beliefs underlying the learning model motivated a change from traditional approaches to organisational structures.

How do we shift away from the ‘paradigm of one’. One student, one hour, one single subject, one teacher, and all of those ‘ones’ that fit into nice blocks of hour-by-hour periods, but knowing that wasn’t the way we wanted to reflect our values and beliefs about teaching. (James, Kōwhai)

A commitment to innovative pedagogy was important to both schools in both the development of their learning models and consequently their organisational models. One realisation of this is through the removal of any hierarchy of learning areas through time allocation and a push toward transdisciplinary learning rather than traditional structures of single cell subjects. The following figure (**Figure 4**) shows the distribution of time for a Year 10 student at both schools. Transdisciplinary learning represented by Project Time at Kōwhai, and Units and Projects at Māhoe, has the highest percentage of time allocated to it, indicating the emphasis each school places on this type of learning. This allocation changes dramatically for Year 13 students at Māhoe, however, with only 8% of their school time consisting of transdisciplinary learning.

Evident at both schools is also an allocation of time to pastoral care exceeding that of a traditional timetable. Where a traditional timetable would allocate around 75 minutes a week, constituting approximately 4% of time spent at school⁴, both Kōwhai and Māhoe have allocated over 15% of overall school time to pastoral care and wellbeing.



⁴ This is calculated according to a typical 15 minute form class at a 6 hour a day school.

Both Nicola and James commented on how the allocation of this time supported the school vision, Nicola stated:

In terms of the vision of the school and the [learning] model of the school is why we also have these things that we want... doing actual explicit teaching around those dispositions and building manaakitanga as a class or as a community, not just hoping it happens magically. We've actually given time so those things become part of a living curriculum. (Nicola, Māhoe)

Another element that was emphasised by both Nicola and James as fundamental to any organisational model was student choice. Both participants frequently used the words 'choice, voice, and flexibility' when describing decisions made around organisation. One way that both leadership teams have been able to increase student choice is through multi-levelling.

Where possible we've aligned so that everyone's [Personal Choice Topic] is happening at the same time on the timetable. That means multi-levelling is facilitated here. (Nicola, Māhoe)

Both schools use multi-levelling in this way, ensuring students are able to choose which classes or subjects to attend based on their own interests or learning needs, not on what year level or class is available.

Nicola contended that the combination of multi-levelling, innovative teaching approaches, and the removal of subject prioritisation enabled the school to implement larger blocks of time than typical in a traditional setting.

There's these layers of rigour that allow us to have bigger blocks of time, for some people to have less time than they might traditionally have had, and to give that layer of choice. (Nicola, Māhoe)

James also believed that some types of curriculum required longer blocks of time for effective teaching and learning. Observation also showed that multi-levelling removed many of the complexities of developing a schedule through consistency of timetabling per individual student and at Kōwhai, specialist teachers did not have specific allocated time for each subject.

Each timetable had also been repeatedly revised and amended; with Nicola calling the Māhoe timetable 'Version 8.0' and James stating the timetable has changed every year since Kōwhai's opening. These changes were attributed to roll growth, responding to student learning needs, and pressures on organisational teams. James also suggested some changes are a commitment to demonstrating the vision of the school.

We've continued to try and not just say we're innovative on day one and so five years later we've done nothing else. We've absolutely changed every year to keep that destination kind of firmly in our focus. (James, Kōwhai)

The timetable was also described as changing throughout each year to directly respond to student needs: “sometimes we have said we’re going to run a Tuesday timetable on Thursday because we’ve missed so many Tuesdays” (Nicola, Māhoe).

The senior leaders also identified other factors impacting a commitment to innovative pedagogies in the organisational structure. One of these elements included ensuring teachers are allocated appropriate teaching time which both Nicola and James expressed was difficult with long blocks and team teaching. Māhoe alleviated this issue through over-staffing while James said the approach left them ‘stretched’ with staffing. Another issue Māhoe has to consider is ensuring senior students are able to access appropriate subject specific NCEA standards for university entry. According to Nicola, this increases the complexity of the timetable and puts pressure on the design team to include subject specific lessons. Another factor that was frequently referred to was how student choice can lead to complications with timetabling. These considerations have further consequences for teacher and student experience which are explored in more detail below.

Physical space and time allocation

Each participant had reflections on the relationship between physical space and the schedule. Nicola argued that physical space did not make any difference to the way time is allocated and that a more flexible schedule can be applied in a traditional learning space. Likewise, James did not believe that “the building is the only construct that enables you to be innovative in this way” (James; Kōwhai; SL) but attributed time and human resource to being at the heart of innovative learning. Scott agreed that a flexible timetable could be achieved at a traditional school and also attributed this to willingness of teachers as well as leadership. He commented that how the time and space is used directly relates to how each teacher implemented their own teaching approach. Along similar lines, Emma thought that although you could apply a more flexible timetable approach in a traditional school:

I don’t think it would take as well because just like with students, staff don’t always – staff are not all the same, right? Humans are creatures of habit. (Emma, Kōwhai)

Some participants felt that the large spaces, typical to each school’s design, could be used with a traditional timetable and furthermore, that traditional teaching even within an alternative timetable was possible. Nicola, James, Emma, Scott and Laura once again attributed this to teacher approach and overall school organisational design.

We could very easily do an old-fashioned timetable here. It’s not necessarily the right thing to do. Equally, we could take this to any school up the road sitting there with Nelson blocks and apply that if there’s willingness to do so. (James, Kōwhai)

Despite the intention of the school's innovative design, however, an example of traditional teaching and learning was observed at Kōwhai where Caitlin experienced one lesson in which the teacher used both time and space in a traditional manner. The lesson was a 40 minute long single subject, taught from a worksheet in lecture style to a group of students who had been partitioned off from the larger groups of students in a small space. The lesson was teacher led, with 35 minutes of talking and no student activity or self-directed learning apparent. This further corroborates the participants' beliefs that despite the possibilities offered by an alternative timetable, traditional teaching methods were still being implemented.

Nonetheless, a strong theme emerged suggesting that larger spaces can enable more innovative approaches to teaching. Nicola noted "obviously, the big open spaces facilitate that ability to have bigger groups, perhaps more space to get up, move around, do more active, engaged learning" (Nicola, Māhoe). Laura felt the space changed her teaching approach, "it's, like, because the space is flexible it makes me think more creatively" (Laura, Māhoe), while Emma felt she could "only see this working to the level that it works because at because it's so open and fluid" (Emma, Kōwhai).

It was also suggested that these innovative approaches required more time, particularly during lessons that involved transdisciplinary learning, which according to James "needs more than just your regular kind of hour a day" (James, Kōwhai). Madison linked the flexible physical space with the teaching approach and time, stating:

It's big tables, it's big classroom discussions, and to fully develop 'big' depth in knowledge and all that through classroom discussion, you've got to have enough time. (Madison, Māhoe)

Observation at both schools also seemed to confirm this. The larger, more flexible spaces enabled teachers to co-teach, each bringing their individual expertise and subject knowledge, creating opportunities for transdisciplinary learning. This teaching was most evident during the larger blocks of time where students were able to invest and engage with the learning and teachers had opportunity to assist individual students. During the shorter blocks of time at Kōwhai, teachers were not able to co-teach due to time limitations, and lessons acquired a more 'traditional' approach with one observed teacher also creating smaller classroom environment through the use of glass sliding doors.

Implementation

The second theme to arise from the data was around student and teacher experience of the implementation of innovative organisational design. Initially, the findings present the participant-teachers' perspectives of the implementation of the organisation and the corresponding effects on their own experience and practice. Following this, the findings converge on the participant-students' experience of the non-traditional organisational models.

Teacher experience

One of the main findings that emerged through the teacher interviews was that the length of time assigned to a lesson directly influenced teaching approach. Laura expressed enthusiasm for longer blocks noting that initially she was nervous about the long blocks “until I got that extra 20 minutes and I filled it up with the same amount of stuff, but it was done better and more in depth” (Laura, Māhoe) and Michael suggested the longer blocks enabled him to design lessons where students “[could] really knuckle down and get stuck in” (Michael, Māhoe). Scott argued:

It doesn't matter what the timetable looks like; it's what happens within that time. But then this timetable approach allows for that innovation to happen, so it's because you've got 90 minutes in [project based learning] ... it's more conducive to innovation. (Scott, Kōwhai)

Similarly, Michael felt that the lessons were able to be “much more fluid [and] much more variable” (Michael, Māhoe) enabling better response to student needs. Laura supported this also stating her lessons at her previous school were very regimented but now she “[has] to be a bit more flexible and [she] thinks that makes [her] more responsive” (Laura, Māhoe). Emma also felt that “now, I have to be super flexible” (Emma, Kōwhai) to better respond to her students' needs.

Conversely, within the short 40-minute numeracy and literacy blocks at Kōwhai school, Scott, who teaches numeracy, found he adapted his teaching for the shorter block stating that teaching from the front is what “I'm moving towards, which isn't great and I don't like it”. He justified the different teaching approach:

It's quicker to teach those skills as a teacher standing up... I've changed it so the 40-minute block now is like a workshop that is skill-based, it's me teaching them how to do something. (Scott, Kōwhai)

Caitlin had also noticed the difference between the longer and shorter blocks, particularly within the numeracy classes, noting “[numeracy] is a bit more traditional” (Caitlin, Kōwhai). Caitlin explained that although other students have had more project based numeracy, her experience had been consistently more traditional. Emma found in the 40-minute literacy classes that although she did not necessarily ‘teach from the front’, she still created mini workshops for students to opt into. Both teachers at Kōwhai, coming from primary school backgrounds, found that the timetabled approach during the numeracy and literacy labs was restrictive, leading Scott to comment that one of his biggest struggles had been “setting up programmes that fit into that time” (Scott, Kōwhai). When asked if he would teach the same subject differently if provided with a larger block of time, Scott responded “yeah, probably. I don't know how but it would probably look different” (Scott, Kōwhai).

Another strong theme that was highlighted was the teachers did not feel pressured to complete teaching or projects within confined time limits. Michael commented that:

There's no one really standing over you with a big stick... there doesn't feel like there's this real restricted time of you have to get this done in this amount of time by the end of this term (Michael, Māhoe)

This was also the case for the teachers at Kōwhai, where Emma shared, "I never feel like I've run out of time" (Emma, Kōwhai). Laura expanded saying she felt she could try more innovative tasks "in fun ways that might not go well and [not] worry about it too much because [there's enough] time" (Laura, Māhoe). Emma and Scott also felt this removal of time pressure allowed them time to develop better relationships with the students. Emma felt she "can finally embrace things like having those strong relationships with learners where [as in a traditional school] it used to be limited" (Emma, Kōwhai). Scott found this to be the case also sharing an example:

I formed a really good relationship with [the student]... because I spent 90 minutes a day with [the student] and all day Friday with [the student] and 12 other kids (sic) and we worked on projects together. (Scott; Kōwhai)

Both Caitlin and Madison also felt that the teachers had more freedom which helped to "get to know them a bit more too" (Caitlin, Kōwhai).

Another element of the organisational structure that all the teachers mentioned was the benefits of the long blocks of non-contact time. Coming from a primary school background, both Scott and Emma found having non-contact time gave them space to develop their teaching, with Scott using the time "to really see what students need" (Scott, Kōwhai). Laura reflected on how the non-contact blocks allowed her time to develop more innovative teaching approaches:

I wonder if the fact that I have bigger blocks of time that I'm not teaching gives me the time to dig deeper into my creativity and therefore come up with more innovative ways to do things. (Laura, Māhoe)

Despite acknowledging the benefits of longer blocks of non-contact time, Michael felt that the school culture also did not prevent teachers from investing too much of themselves outside of that time commenting "this is the kind of school where people will burn themselves out" (Michael, Māhoe). Although Emma did not feel that teachers would necessarily burn out, she did acknowledge "the culture of the school is [that] everyone [should] lend a hand" which she had found to be to her advantage: "there's always someone there to back you up" (Emma, Kōwhai). Both senior leaders felt they were very supportive of teachers not spending time outside of school on work:

We're fiercely protective of after school, so when the [bell rings] at 3:10... we encourage that the staff are walking out with the students because the day is done. (James, Kōwhai)

Laura and Emma perceived their workload to be similar to their previous traditional workplaces but Laura now felt that her, "priorities are different" (Laura, Māhoe), a sentiment Emma echoed:

“the priorities are just in a different order and the structure and the rigour of how things should be is way more human and realistic” (Emma, Kōwhai).

When asked if they were provided with enough professional development, all four teachers responded with different versions of ‘probably not’. The senior leaders at both schools felt there was enough professional development provided but the teachers did not necessarily agree with this sentiment.

Basically, there was a ‘you know how this place works, you’re going to figure it out, and fingers crossed you’ve got it figured out by the time you start’ sort of thing. (Michael, Māhoe)

Although all four of the teachers felt that they could have benefited from further professional development, they also felt they were provided with enough in-house support and were adaptable enough to cope with the change. Laura considered that she personally did not need more professional development but she acknowledged other teachers may have struggled with the transition and perhaps would need further “pointers in the right direction” (Laura, Māhoe).

This theme was further highlighted by the participants with many believing some teachers would not be able to adapt to the more flexible environment. James held the view that “it takes a particular type of teacher to flourish in a space like this because we’re deprivatising everything” (James, Kōwhai) and Nicola agreed saying some teachers thought they were ready for “something innovative and very different, and the realities of what that looks like might have been a bit more than they bargained for” (Nicola, Māhoe). James felt that secondary trained teachers found this more difficult and go through what he termed a “grieving process”. He believed these teachers need to “unlearn” many of the teaching approaches developed in traditional schools. Scott associated the organisational model with teacher control stating the open, fluid nature “force[s] you into having to give up some of that control” and “there are teachers that just can’t let go” (Scott, Kōwhai).

Overall every participant teacher clearly stated they preferred the alternative innovative organisational model to the conventional models they had experienced at their previous traditional schools. The participant teachers felt the advantages this alternative model provided were beneficial both to the students and themselves.

Student experience

The strongest themes to emerge from the student experience of these alternative models relate to self-directed learning and personalisation. Observation carried out at both sites showed students engaging in self-directed learning throughout most of the day but with a high level of engagement. Laura felt that students “seem[ed] to cope really well with the time” and that it gave them “a little space to engage without feeling [pushed] to get stuff done” (Laura, Māhoe).

Similarly, James felt that students were “enabled to make decisions about the way that their learning day plays out” (James, Kōwhai) allowing them choice over their use of time and thus increasing their engagement. The students had mixed feelings about this type of learning, however, as Caitlin found while it helped her to be more independent, she sometimes struggled to find time to liaise with her teacher saying “they’re quite busy so it[s] a bit hard to contact them” (Caitlin, Kōwhai). Madison felt this approach enabled her to be more autonomous over how she used her time saying, “they let us take control of our own time” and that although it helped her learning, it also increased student responsibility.

I feel like you're responsible for your work. If you don't do it, then that's a consequence on you. If we don't do our work then [the teachers] support us, but it's our responsibility to do our work.
(Madison, Māhoe)

Madison also felt that some students were not as capable of the responsibility they were given over their own learning. This sentiment was echoed by some of the teachers who felt that “you have to be very mature as a student” (Scott, Kōwhai) to benefit from the model. Emma also felt some students still “need an adult” for a while before adjusting to the self-directed learning.

Caitlin associated her high level of engagement over long periods of time with her ability to choose projects that interested her. She explained if something is not interesting then she felt she was wasting time whereas at Kōwhai she felt she had the freedom of choice to say, “okay, I don't want to do this, I want to focus on something that is relevant for me” (Caitlin, Kōwhai). Emma also felt that student engagement increased if students had choice over what they spent time on:

No students use their time wisely in any school, but if it's something that they're passionate about or focused on or collaborating really well with, then of course they can. (Emma, Kōwhai)

Furthermore, Madison felt she was only able to engage deeply if she was provided with enough time saying she felt “going really deep into something which you care about... which I feel like you can only really do if you get given enough time” (Madison, Māhoe). Correspondingly, Caitlin appreciated the long blocks dedicated to project learning as “once you're into something you can just keep going”. Although Madison acknowledged she had choice over her subjects and her use of time within blocks, she still felt in her senior year the pressure to reduce her subject choices to fit into the allocated time despite “really want[ing] to take more”. Her final subject choices at Year 13 were largely influenced by pathway coordinators who encouraged her to take subjects such as science and statistics as they were “useful for most jobs” (Madison, Māhoe).

Both the students strongly felt the innovative organisational model suited them, however, they were not able to comment on a preference of model as they had not experienced a traditional organisational model. The teachers, however, felt that the model could suit any student with the right guidance and over time.

I think it can benefit every student because there's the ability for every student to show potential and to reach their potential, whereas in a traditional school, it's very systematic. (Scott, Kōwhai)

Emma felt that some students struggled to adjust initially either because “they’re used to a traditional school” (Emma, Kōwhai) or they struggled with the self-directed learning, whereas James felt that students adapted very quickly and thrived within the model. Laura also felt the model could suit any student but was mindful that some students are “disadvantaged by every approach” and that although she favoured the structure, it would not necessarily work for every student.

Outcomes of organisational model

Throughout the findings three common themes repeatedly arose around the implications and outcomes of this organisational model, namely, flexibility, responsiveness and personalisation. The teachers did not feel that the timetable structure itself was very flexible with the primary trained teachers at Kōwhai feeling more restricted by the approach than they had at their previous schools. Teachers were also uncomfortable extending lessons as they did not want to encroach on other teacher’s time, even if students were deeply engaged with their work. All the teachers, however, did believe that within the timetabled blocks they had the flexibility to create lessons that directly responded to students’ learning needs and the structure of their lessons became more fluid and student focused rather than restricted and focused on results. Michael felt the system enabled him to develop courses to suit his students’ needs saying, “I’ve got this real range of stuff that, again, is about student independence and student choice and student inquiry” (Michael, Māhoe). Each student also noted that within each timetabled block they had flexibility to work on whatever learning they considered to be most relevant and they felt the teachers encouraged this. Emma supported this saying, “It’s really flexible but really, really important... even though it’s [project] time and that’s [numeracy] time, they can full cross over” (Emma, Kōwhai). Scott summarised by saying the model allowed teachers “the adaptability and flexibility and ability to just let students run with something because it’s for their learning” (Scott, Kōwhai). The findings also seemed to suggest that the flexibility enabled a higher level of responsiveness than a traditional organisational structure.

Nicola thought that when students were able to personalise their learning through choice it made “a difference to engagement” (Nicola, Māhoe). Students had choice in the context of their learning through choosing units, classes and projects, and also through how they wanted to present their work. Madison explained, “It’s totally my choice, how I go about it, how I present it... It’s completely my choice which is really fun” (Madison, Māhoe). James also described the students were comfortable making choices based on their own needs, saying:

There's a lot of breathing space where they can just do what's right for them, knowing that it's different from all of the people sitting around the same table. (James, Kōwhai)

Caitlin found that increased choice enabled better engagement:

Teenagers have a short attention span and then if they're forced to do something, I don't think they really want to do it, but when they're given a choice they'll be like ok, I have a few ideas about this. (Caitlin, Kōwhai)

James believed the organisational structure was responsive, enabling “a complete shift in pedagogy because nothing's predetermined” and both schools adapted their schedules every year to respond to student need and choice. All courses and classes offered changed annually based on student interest and what the staff were able to offer enabling a responsive system. Both senior leaders did highlight that this did “require a lot of front loading for team planning” (James, Kōwhai;). Nicola also found that enabling flexible and responsive structures put pressure on organisational teams stating “flexibility and rigour don't naturally go together” and that there was a lot of administrative work behind the scenes that enabled this structure. Occasionally, student choice was limited to cater for these organisational constraints. Nicola described the timetable as being ‘huge’ and that the decision was made to reduce administrative pressure by trialing ‘sets’ of units this year. Students no longer chose individual units they were directly interested in but chose a set of predetermined units instead. Nicola's response to this was, “we've limited the choice to make it easier for us, but there's still quite a bit of choice” (Nicola, Māhoe).

Each participant felt that the design was superior to the restrictive timetable model of a traditional school. Although both schools still implemented a timetable, the participants felt the priorities were significantly altered to a traditional approach. Laura felt that:

I think in the world that we're in it's very hard to stray too far from what is traditional, without causing a lot of anxiety for perhaps parents and students. I would say that the school has taken it about as far as you can before you have to call yourself an alternative school. (Laura, Māhoe)

The vision of James is that the whole timetable consisted of transdisciplinary learning that is “social, emotional, or relational” (James, Kōwhai) but admitted it was a slow journey to get there.

Conclusion

This chapter began with a summary of each school's approach to alternative organisation, with a focus on how the structure is designed and the allocation of time within each model. The analysis of data from the participants' transcripts, the two student observations and

documentation revealed three overarching themes. ‘Design and Implementation’ referred to the similar process each ILE school adopted in designing their organisational model; the connections participants made between the organisational model and innovative approaches to teaching and learning; and the perspectives of participants on physical space and the organisational model. Participant perspectives of the design of the organisational model then progressed into ‘teacher and student experience’ of the model with threads from the initial theme around pedagogy and design weaving through these narratives. The third theme, ‘outcomes’ emphasised further subthemes of flexibility, responsiveness and personalisation that the participants all perceived as varying implications of the non-traditional organisational structure, continuing to build on the previous elements of space, time and pedagogical design. In the next chapter, I will discuss these themes in light of the existing literature.

Chapter Five: Discussion

Introduction

The intention of this research is to identify relationships between innovative pedagogical practices and the organisational structure of two case study schools, particularly the effect of this relationship on how time is managed and allocated within these schools. Complementary to this intention is determining whether these approaches offer a compelling alternative to the traditional model of school organisation. The previous chapter presented findings arising from participant narratives of their school organisational practices and supporting observation and documentation. Initially presented was each site's approach to school organisation and allocation of time, including the practicalities of how the structure functions. Thematic analysis of the data gave rise to three themes: design and implementation; teacher and student experience of these designs; and the outcomes of the organisational model. Weaving through all these themes was a discourse of flexibility, responsiveness, and personalisation. The literature review considered the importance of school organisation and the management of time in relation to ILEs and presented potential benefits of these on the implementation and integration of innovative pedagogical approaches. This chapter discusses the findings in relation to the reviewed literature, further highlighting relationships between space, time and pedagogy. The chapter identifies the three main themes from the previous chapter, first critically exploring the design of school organisation, followed by the teacher and student experience of these structures, finally the outcomes and implications of the structures are presented in relation to the literature and in reference to the aims of this study.

Design

Design has the potential to maximise flexibility and can be considered a pivotal element in the overall effectiveness of an ILE (Gislason, 2009; Radcliffe, 2009; Wright et al., 2021). In the following section, participant perspectives will be discussed in relation to design, building on themes of space, time and pedagogy. The organisational design process of each case study school is then explored in reference to the literature while similarities are highlighted between the approaches, particularly around the value-based nature of the approaches. Wright (2017) and Danielson (2002) both emphasised allocation of time as a means of implicitly and explicitly promoting school priorities, uncovering what values are embedded in school organisational approaches. This prioritisation through time allocation will be explored in this section, with further discussion around these implications developing throughout the chapter.

The relevance of space and time on design

Perceptions of time and space are fundamental to how people experience an environment and can affect how people live and work (Whiteford & Barns, 2002). This can be seen through the participants' collective experiences reflecting Lefebvre's (1991) notion of socially produced space and time. Each participant's narrative described instances of space and time influencing their experiences of the educational environment in some way. Gislason (2019) and Radcliffe (2009) acknowledge the many factors impacting on a learning environment, both emphasising the physical aspects of school design and this too was reflected, particularly in the narratives of the participant-teachers. Illich (1995) and Foucault (1979) underlined how schedules and rituals can become part of a framework that controls activity, particularly when rigidly implemented. The findings of this study show that both schools attempted to move away from traditional structures around how space and time were designed. Aeon and Aguinas (2017) highlighted, however, the difficulty of resisting traditional organisational norms and maintaining alternative structures, particularly when resources are limited. One intention of ILEs in New Zealand is to cross cultural boundaries whilst providing students with personalised authentic learning experiences (New Zealand Ministry of Education, 2018), which can be seen in the narratives of the participant-leaders and the design of the organisational structures. These alternative approaches each school adopted to time and space were maintained through careful design and organisational processes. These structures, however, even though altered from traditional norms, are still capable of sending underlying messages of hierarchy and priority to students through time allocation and structure, whether intentionally or not.

All the participants within the study saw the relationship between time and innovative pedagogy, highlighting that these types of teaching and learning required more time than traditional approaches that focus on a single subject. The participant-leaders understood the need for extended time periods to be devoted to this learning type, while the participant-teachers found the method of teaching necessary for innovative pedagogies impractical in shorter periods of time. The participant-students also highlighted that their experiences of student-centred, directed and transdisciplinary learning required extended periods of time, longer than the traditional 60-minute period. Much of the literature supports these perspectives, contending that rigid time boundaries restrict innovative teaching and learning practices (Csikszentmihalyi et al., 2014; Danielson, 2002; Saltmarsh et al., 2015; Shernoff et al., 2014) and that deeper learning experiences are better supported through the establishment of larger allocations of time (Benade, 2019; Csikszentmihalyi et al., 2014).

There was inconsistency in opinion over whether alternative structures could be implemented in traditionally designed schools, or if having a school with a flexible physical design directly corresponded to the implementation of alternative organisational structures. Some of the participants strongly believed that there was no relation between alternative organisational

structures and flexible learning environments, believing innovative pedagogical approaches and organisational structures could be implemented in a traditional single-cell school design aligning with Benade's (2017) suggestion that flexible organisation and physical space are not co-dependent. Observation and further questioning, however, did highlight the difficulty of implementing some transdisciplinary approaches in a traditional environment due to the lack of space, also aligning with further observation by Benade (2017). ILEs are also considered by Gislason (2019), Mahat et al. (2018), and Wall (2016) to be more appropriate environments for this type of learning. Most of the participants did agree, however, that larger time blocks and fluid schedules could still be implemented in traditional settings but that the physical setting presented further challenges for implementing innovative pedagogies.

Much like Deed and Lesko's (2015) argument that open spaces authorise different teaching practices, the participant teachers made distinct links between time, space and their own teaching practice. They indicated that the physical design shaped their pedagogical approach and obliged them to implement more innovative teaching approaches to cater for the more fluid environment. Due to the lack of space available in a traditional single-cell, many of these approaches would not be required and could be argued as inappropriate for the smaller space. There was also a general consensus that traditional organisational structures could be implemented in flexible spaces. As noted by Gislason (2009), however, difficulties can arise from this, as traditional teacher-focused pedagogical approaches are best suited to single-cell classrooms as they require "visual and acoustic boundaries" (p. 188). This could be seen evidenced during the observation at Kōwhai School, where the teacher, in an attempt to support her traditional pedagogical approach, made the flexible space work for her by closing off an area to better suit her teaching, consistent with Gislason's (2018) argument that the physical layout of an educational space supports some teaching methods better than others.

It could be argued that there is a reciprocal relationship between space, time and pedagogy. Flexible learning spaces demand innovative approaches to teaching and learning, while these innovative teaching and learning approaches need larger allocations of time, requiring alternative and innovative approaches to school organisation. The design of time and space within an educational environment could be argued as critical to enabling the implementation of innovative pedagogy and providing students with authentic learning opportunities.

Value-based design and innovative pedagogy

The New Zealand Curriculum (New Zealand Ministry of Education, 2007) dedicates pages to articulating the vision, values and principles the New Zealand Ministry of Education considers to be important for students. How each school approaches the realisation of these values and vision, however, varies. Values can be seen as providing purpose to education and laying the

foundation for practice (Biesta, 2010), allowing schools to deliberately move away from “accepting practices in an uncritical, unquestioning manner” (Atkin, 1996, p. 1). The participant senior leaders from both Kōwhai and Māhoe expressed the specific process each school followed in its overall curriculum design, each emphasising the vision-based approach they took toward all aspects of the design and the significance of values on the consequent development of the organisational structure. This mirroring of Atkin’s (1996) vision-based approach to school curriculum and structure design enabled the schools to develop an alternate structure and move away from what the participant senior leader, James (Kōwhai), and Wright (2017) described as “the paradigm of one”.

Despite both schools interpreting the New Zealand curriculum autonomously (New Zealand Ministry of Education, 2007) and both committing to pursuing the “intentional departure from the traditional approach” endorsed by the OECD (2013, p. 11), the findings show that each school developed remarkably similar curriculum areas. James (Kōwhai) indicated this was due to a “fresh approach” to the document, stating:

It’s interpretation of the New Zealand curriculum. We think all of the permission is given in that document. All of the magic is contained in the document. People allow it to be boring when they continue to structure it on the way learning was structured prior to its release in 2007. (James, Kōwhai)

This similarity could also be the result of analogous pedagogical goals and visions that focus on similar intentions of personalised learning and alternative education practices. This would echo Radcliffe’s (2009) preferred method of design which suggests pedagogy as the initial foundation for innovative design. The learning model each school developed centred on three key curriculum areas, namely pastoral care; transdisciplinary learning, also referred to as multi-disciplinary or cross-disciplinary learning; and a version of single subject learning. If adopting Wright’s (2017) notion of time allocation codifying “what matters” (p. 53), the time allocated to each of these curriculum areas could be seen as a direct indication of the value the leadership teams assigned to each area.

If time dedicated to student wellbeing, including Physical Wellbeing Time, was to be included under the Pastoral Time umbrella, Kōwhai School dedicated significantly more time to student wellbeing, constituting 30% of school time. Even though Māhoe School’s allocation of this time is less, at 15%, as mentioned in chapter 4, this is still a marked increase from a traditional timetable allocation, further indicating investment to innovative approaches. Time dedicated to pastoral care reflects consideration of the New Zealand Curriculum vision, values and principles as well as each school’s focus on student-centred, personalised education. It is interesting to note the opposing opinions of the student participants regarding this time. Caitlin at Kōwhai found the time to be invaluable to her learning and focused state of mind at school, whereas Madison at Māhoe, although personally finding pastoral time beneficial, thought the time was

often wasted and undervalued by other students. This could be attributed to a multitude of factors, however, one reason could be owing to how each school structures the time, with Kōwhai allocating large amounts at the beginning and end of each week, whereas Māhoe allocated a consistent 80-minute period each day to the curriculum area, potentially contributing to student apathy in regard to this time. Time dedicated to study periods and breaks could also be included under the pastoral care umbrella, however, both schools allocate a similar proportion of time to these as a school following the traditional model.

Whereas traditional organisational structures tend to prioritise learning areas by allocating more time to ‘core subjects’ such as Math and English, Kōwhai and Māhoe have attempted to eliminate any hierarchy of individual subjects through transdisciplinary learning (OECD, 2013). Seemingly in accordance with the OECD’s (2013) advice, each school allocated most school time to this type of learning, indicating the precedence both schools gave to this innovative learning approach. Considering students have considerable choice in how this time is spent, it could be argued that both schools prioritised innovative pedagogy through personalisation by virtue of student choice. The participants’ narratives of personalisation reflected the views of Benade (2017), Bolstad et al. (2012) and the writings of French et al. (2020) who highlighted the importance of providing students with opportunities to choose learning that directly interests them. Although, despite this attempt to remove subject hierarchy, evidence can still be seen at both schools of a subtle prioritisation of individual subject areas. Kōwhai has dedicated time each day toward numeracy and literacy, essentially presented as individual Math and English classes, while Māhoe increasingly removes transdisciplinary learning options as students advance in year level, pressuring students to select specific learning areas in the guise of ‘personal choice topics’.

Even with time allocated to essentially single subject, traditional learning, the organisational designs implemented in both schools predominantly indicate a shift from what Alterator and Deed (2018) describe as the “under considered and unmoving norms” (p. 6) of a traditional model. This move to a value and vision-based design process, anchored in innovative pedagogy, promotes the development of an alternative organisational structure within the school and enables opportunities to allocate time in ways that are authentic to the vision of each school. French et al. (2020) and Gislason (2018) (see also Kedian & West-Burnham, 2017) describe misalignment of pedagogical goals with building design and organisational structure as one of the central issues that can arise from organisational structures that do not align with a design’s intended vision. The design process implemented by the case study schools largely appeared to assist to some extent in the mitigation of this misalignment and support the establishment of an essentially coherent and holistic organisational design.

The student and teacher: an alternate experience

Fundamental to a critical theoretical approach is uncovering and understanding the stories and narratives of marginalised groups, or groups that may be disadvantaged by any structure attempting to control their actions or behaviours such as a schedule (Budd, 2012; Felluga, 2015). The participant student and teacher narratives of the organisational structure are explored in this section. Themes of time, space and pedagogy continue from the previous, with the additional thread of control emerging through the discourse. Findings from the previous chapter are examined from the perspective of the existing literature and discussed alongside these themes to develop insight into the experiences of those teaching and learning within the organisational model.

Teacher Narrative: Aligning pedagogical practice with environment

To briefly touch on previous discussion in this chapter, an alteration of physical learning spaces can act as a “catalyst” (Wright et al., 2021) to “nudge” (French et al., 2020) the implementation of innovative pedagogy and alter teaching practice. The participant-teachers perceived that their teaching practice was positively influenced by the more fluid nature of the physical environment which is largely consistent with findings of Byers et al. (2018), Imms et al. (2016) and Nair (2014). A further connection was identified by the participants between the physical environment, teaching practice and the organisational nature of each school. The organisational structure is recognised by Radcliffe (2009) and Gislason (2009) as being a further element of an overall cohesive school design that supports both teachers and learners which was confirmed by the experiences of the participant-teachers. There appears to be a consensus that effective ILEs rely on comprehensive design and implementation processes (French et al., 2020; Gislason, 2009; Wright et al., 2021) with teachers holding a key role in implementation (Gislason, 2018).

Length of the period, or block length, was highlighted by the participant teachers as having direct impact on their teaching approach. The schedules at both Kōwhai and Māhoe show a noticeable effort to move away from the established timetable models at a traditional school (Alterator & Deed, 2018), both through the allocation of time and in the structure of time. Time structures at Māhoe consist of the 80-minute block which both the participant-teachers agreed allowed for flexibility, responsiveness and improved quality of teaching. The longer transdisciplinary blocks at Kōwhai were also acknowledged by the participant-teachers to increase responsiveness and allow for more innovative approaches to teaching, consistent with observations made by Msapenda and Hudson (2013) of flexible timetabling approaches. The relationship between short time periods and less innovative teaching approaches was also noteworthy. The findings showed that within the shorter time frames during literacy and numeracy, both the participant-teachers at Kōwhai felt rushed and less empowered to respond to the individual needs of students, opting for traditional teacher-led approaches to teaching and

learning. Scott (Kōwhai) had difficulty developing programmes of learning that fit the time and opted for quick teaching solutions to the reduced time limit. This was also mirrored by observation of other teachers adopting similar approaches within the limited time. The student-participant's experience of this time also reflected reduced opportunity to engage with the content during the period resulting in potentially decreased understanding of the subject matter, aligning with observations by Byers et al. (2018) that traditional classrooms and teaching tended to be consistent with surface learning experiences. This element of the organisational structure at Kōwhai reflected a more traditional approach, resulting in traditional teaching practices, not necessarily consistent with the pedagogical goals of the school.

Occasional inconsistency between teaching practices and the goals of the school was recognised by participants at both schools. The participant-teachers highlighted that although they personally changed their practices to better suit the more fluid educational environment, they noticed that not all teachers were as able to do this. The participant-leaders also noted that some teachers decided to leave the schools due to not being able to adapt, while others continue to struggle with the alternative environments, attempting to implement the traditional approaches they were familiar with. It would seem flexible practices are not guaranteed by the provision of a flexible environment (Benade, 2017). Saltmarsh et al. (2015) suggested that organisational structures are instead culturally produced and rely heavily on teachers' habitual practices. The work of Aeon and Aguinas (2017) on time management also highlighted habitual approaches to time are often deeply ingrained and difficult to change. Many of the participants in this study noticed some teachers struggling to adapt to the environments, using language such as "struggle", "let go", "unlearn", "grieving process", and "give up". Scott (Kōwhai) directly related the phenomenon to teacher control which Saltmarsh et al. (2015) argued is a product of deeply ideological traditions that attempt to govern students and control activity rather than creating student centred learning environments. Saltmarsh et al. (2015) and Nair (2014) highlight issues with teacher controlled learning environments, resulting in less student engagement, restricted student decision making and less response to student's individual needs. All of these consequences were either remarked on by participants or noted in observations where teachers attempted to maintain control through traditional teaching approaches. Discussion throughout the literature supports this, with Gislason (2018) and Deed and Lesko (2015) both commenting on the difficulty teachers have in adapting their ingrained routines and practices, resulting in the misalignment of pedagogy and design (French et al., 2020; Kedian & West-Burnham, 2017). Thus, it appears that teachers held a significant role in the successful implementation of innovative organisational approaches and the alignment of school vision and pedagogy.

Based on the participant-teachers' narratives, a link could be made between adaptation of teacher practice and limited professional development. The consensus among the participant-

teachers was that there was minimal professional development at their respective schools in terms of adjusting to the organisational model and effective teaching practices. Although the participant-leaders felt that adequate professional development was provided, further questioning of the participant-teachers highlighted much of these developmental sessions were around understanding school values and vision. As referenced earlier in the discussion, according to Atkin (1996), this alignment of values and teaching practice is vital in developing a holistic school culture and implementing the design. The participant-teachers, however, did not feel this was sufficient in preparing them for the flexible nature of the physical and organisational environment. Gislason (2018) stresses the importance of properly preparing teachers for a shift in pedagogical goals and practices and suggests appropriate training as a method of achieving this, consistent with responses from the participant-teachers in this study. What the participant-teachers did comment on, however, was how the longer teaching blocks provided longer non-contact periods. Each teacher in the study found the substantial non-contact time enabled them to take a deeper look at their teaching practice and develop more personalised and responsive pedagogies, potentially offering some new insight into how non-contact time has an effect on teaching practice.

The participant-teachers correlation of time allocation and block length with better student relationships was interesting, and shows some connection to the work of Lo and Houkamau (2012) around socio-centric approaches to time. Western clock-based traditions of time encourage efficiency and being ‘on time’, whereas socio-centric approaches value relationships and successful task completion (Lo & Houkamau, 2012; Whiteford & Barns, 2002). The New Zealand Ministry of Education (2016) highlights one of the aims of ILEs is to encourage inclusion and move away from traditional didactic teaching and learning, which according to Lo & Houkamau (2012), requires more time and flexibility. By focusing solely on the physical environment, however, the risk according to Gislason (2009), Radcliffe (2009) and French et al. (2000) is developing unbalanced school models that do not align all the necessary elements of a learning environment (see Chapter 2). By allocating significant time to student wellbeing, allowing more opportunity for teacher-student relationships, and ensuring students have access to longer blocks of time to complete tasks, the alternate school organisational approaches at Kōwhai School and Māhoe School could be seen as further challenging traditional Western perspectives of school time and moving toward more dialogic environments (Higham et al., 2014).

Student narrative: A different perspective

The work of Byers et al. (2018) on personalisation in ILEs relates in part to the participant-students’ narratives from this study. Caitlin and Madison’s experiences involved active, collaborative and personalised learning within the school environment (Byers et al., 2018).

Contradictory to the investigation of Byers et al. (2018) however, was the participants' insights into the relationship between personalisation and increased engagement. Whereas Byers et al. found that students did not perceive themselves to be better engaged despite increased opportunities for personalisation, both Caitlin and Madison emphasised their increased engagement due to the choice and control they had over their learning. This was further corroborated by participant-teachers who found students pursuing projects directly interesting to them were better engaged in those tasks. Suggestions made by Shernoff et al. (2014) better aligned with these findings, describing students' increased voice in their learning as directly influencing feelings of "intrinsic reward" leading to higher levels of motivation. This connection between personalisation through choice and engagement is further supported by the findings of Niemic and Ryan (2009) and Csikszentmihalyi et al. (2014).

The participants offered new insight into the relationship between engagement and time, directly relevant to how time can affect student experience and learning. Both student-participants explicitly commented on how the length of time within blocks affected their engagement, emphasising their ability to fully participate in a task was based on how much time was provided. Madison found deep learning was more likely to occur in longer blocks, while Caitlin implied she was able to enter what is akin to a "flow state" (Csikszentmihalyi, 2014) when there was more time allocated to a task (see Chapter 4). By removing pressure to complete tasks within rigid timeframes, students were able to engage with tasks of their choice and, according to Madison (Māhoe), "go really deep". Csikszentmihalyi et al. (2014) argued that a "flow state" ensues when individuals are fully invested in an activity, which based on previous discussion is more likely to occur when students have choice over the learning. Deeper engagement in activities could thus be attributed to students having choice over their learning goals and tasks in addition to being granted sufficient time in which to invest in these tasks. Conversely, it could be suggested that instances of students avoiding commitment to a task may be more likely if the time provided to complete the task is inadequate.

One of the key observations within these longer time blocks was the embedded occurrence of self-directed learning. This self-directed learning was an established expectation at both schools and appeared to be an important element of the learning culture. The participant-leaders believed it enabled students to have increased voice and control over their own learning, while participant-teachers found it to be fundamental to enabling personalisation and allowing students to be completing different tasks at the same time. Both of these responses highlight the shift of control from the teacher to the student. Where traditionally the teacher would decide how time within a class is spent, dictating activities and learning (Nair, 2014; Robinson, 2010), self-directed learning places the choice with the students of how to spend time. Nair (2014) in particular focuses on how rigid timetable structures are a means for controlling student behaviour, a concept echoed in the work of Foucault (1979) and Illich (1995). Foucault

observed the “partitioning of life” (1979, p. 149) through timetables and noted this type of constraint made controlling behaviour more convenient for those in authority, in the case of this study, the teacher. Illich also noted the implementation of a ‘ritual’ timetable was oppressive and uneducational, by ensuring learning “fits previous measures of social control” (p. 21). In contrast to this, self-directed learning firmly places the control of time with students.

Placing responsibility of learning with students through self-directed learning did result in mixed responses from the participant-students. Both Caitlin and Madison appreciated the autonomy they had over their own time and the level of personalisation they were able to access through choice, however, they were also cognisant of the added obligation this autonomy provided. The participant-students and some of the participant-teachers also alluded to the difficulty some students within the environment had with the increased responsibility. Msapenda and Hudson (2013) also observed this in their research, noting some students found the added responsibility to be de-motivating. James (Kōwhai) believed though, that while some students find the added responsibility initially difficult, most are able to adapt. He reiterated that teachers had more trouble with the transition than students. Although the participant-students felt self-directed learning added pressure, their deep engagement with the learning was evident through observation which aligns with the ideas of Shernoff et al. (2014). Despite the added responsibility of self-direction, time spent in each of the schools, Kōwhai and Māhoe, was largely antithetical to Shernoff et al.’s (2014) observations of traditional classrooms which consisted of the passive transmission of information to disengaged students, an image captured by Freire’s (2005) ‘banking concept of education’. Observation revealed, instead of teachers spending the majority of lessons implementing didactic pedagogical approaches, students were highly engaged and teachers were seen to facilitate rather than direct the learning, perhaps better reflecting the New Zealand Ministry of Education’s (2018) goal to place “learners at the centre of the education system” (p. 12).

Outcomes: A compelling alternative?

Underlying this study are questions concerning the intentions of alternative organisational models and the implications from their implementation. Emerging through the previous section were themes of control. This section further expands on that theme, in addition to the consistently present discourse on time, space and pedagogy relating to the aims of the study. Initially the section discusses the subthemes presented in the findings of flexibility, personalisation and responsiveness. The final discussion within this section explores the outcomes of alternative school organisation in relation to themes such as control and the existing traditional structures implemented at the majority of schools in New Zealand.

Flexibility, personalisation and responsiveness in school organisation

Referring to the previous discussion around value-based design, each school implements curriculum and organisational structures that reflect a commitment to student-centred education through personalised and responsive learning with enough flexibility to allow the structure to meet individual student needs. The student-participants perceived this flexibility and were empowered to use time in ways they felt better suited their individual learning needs. Morrison and Kedian (2017) noted that ILEs are able to offer this flexibility and increased opportunities for students to engage in meaningful learning experiences. This commitment to personalisation also reflects the intentions of the OECD (2013) which encourages the implementation of individualised learning plans through flexible approaches to organisation and environment. Even though the student-participants perceived this level of flexibility, it is important to note that the primary-trained teacher-participants did not feel this level of freedom and had trouble adjusting to a timetable. The ‘de-privatisation’ of time, in the words of James (Kōwhiri), led to these teacher-participants feeling restricted, particularly in the shorter time blocks. All the teacher-participants however, especially the secondary-trained teachers, did find the level of fluidity and flexibility within the extended periods was increased compared to their previous teaching experiences and this increased their excitement about teaching in innovative ways. This aligns with Deed and Lesko’s (2015) observations of teachers struggling with the change in environment, but also appears to offer new insights into how flexibility can motivate teachers. Each teacher-participant expressed positive language and excitement around the alternate structure of curriculum and school organisation. It appears much literature is dedicated to the difficulties teachers face in adjusting to new learning environments (see Deed & Lesko, 2015; Gislason, 2018; Saltmarsh et al., 2015). Although the findings of this study certainly reflect some of that struggle, it is difficult to find discourse that discusses the enjoyment teachers have with the provision of flexibility within lessons and the motivation to incorporate different teaching pedagogies into personal practice. The inclusion of innovative pedagogical practices and teaching directly responds to individual student needs reflecting the intention of ILEs (New Zealand Ministry of Education, 2018; OECD, 2013). This change in practice, according to the participants, is directly related to the allocation of time and longer periods of time available to teachers and learners.

The level of personalisation made available to students also reflected innovative approaches to education discerned in research literature (Blackmore et al. 2011; Kedian & West-Burnham, 2017; OECD, 2013; Osborne, 2016; Robinson, 2010). The ‘one-size-fits-all’ approach of traditional education is unable to provide the flexibility and fluidity necessary to cater for individual student needs (Benade, 2019; Robinson, 2010). The findings mostly reflect what Blackmore et al. (2011) defined as personalised learning with “project-based, interdisciplinary pedagogies” (p. 23) along with “self-paced learning and ...guided practice through coaching”

(p. 23) alongside co-operative learning in small groups. The student-participants in both the Māhoe and Kōwhai schools, were able to choose when, how and what learning was directly appropriate for them and were mostly provided with support from their teachers to achieve the goals they had set for themselves. This, according to Csikszentmihalyi (2014) and Shernoff et al. (2014), produces more intrinsically motivated students and positive educational outcomes. The organisation of each school also reflects Nair's (2011) demand for more personalised education models which he believes maximises student achievement. This study does not address student achievement, however as previously discussed, personalised learning plans alongside sufficient time in which to complete tasks did seem to be connected to student engagement.

Where the teacher-participants felt the structure enabled them to be more responsive to individual student needs, the experience of the student-participants did not necessarily reflect this. Caitlin, in particular, found it difficult sometimes to have individual feedback from her teachers in the busy environment and both students were observed attending a whole lesson with barely a few minutes of direct teacher contact. Nicola and James, both senior leaders at their schools, nonetheless strongly believed the school organisation reflected and enabled responsiveness. This highlights a disconnection of teacher and leader perceptions of the environment from student perceptions. The experiences of those learning within a structure are not necessarily perceived or understood by those in authority. Illich (1995) also notes that structures come with "rituals that hide from their participants discrepancies and conflicts between social principle and social organisation" (p. 72). This would seem to be the case in this situation where the teachers feel they are catering to the needs of their students, but may in fact, only be catering to the needs of some while others receive less support, reflecting the situation in many traditional classrooms.

A question of control

Timetables are inherently structures implemented to influence those living and working within them, typically for the benefit of the authority figure implementing them (Foucault, 1979). This is particularly the case for a traditional timetable, where "curriculum is made of prefabricated blocks" (Illich, 1995, p. 57), separated into subject silos that adhere to rigid timeframes in an attempt to standardise and control outcomes (Foucault, 1979; Illich, 1995; Robinson, 2010). Foucault's focus on understanding reality through discourse and perceiving a variety of alternate interpretations of the world is evident in the contrasting narratives of the participants in this study. Different perceptions of knowledge and power can be discerned in the discourse of the participants that lean towards a more complex conversation around school organisational approaches. Different threads weave themselves throughout each narrative, around time, space

and pedagogy. One distinct thread to arise, however, particularly evident through the teacher and student narratives, was that of ‘control’.

As timetables are mechanisms controlling time and movement (Foucault, 1979), it was noteworthy that even within an alternate more ‘flexible’ timetable, elements of control continued to be evident. These elements firstly presented themselves in the narratives of the participant-leadership in the design of the school organisation. Although the wider school community of each school was consulted and offered the opportunity to be involved in the design process to some extent, the majority of the organisational and physical design was implemented from the top down (Wells et al., 2018) relegating consultation with the larger school community as ‘tokenistic’ action (Benade, 2021a). This was evidenced by the majority of decision making around the design being made by senior leadership teams. The involvement of parents, teachers and students in the design making process does indicate a shift from traditional organisational processes but decisions around teacher and student experience are still largely determined by those in positions of authority (Baquedano-López, 2013; Benade, 2021a; Wells et al., 2018). Another example of control over the design, however, was seen in the findings through the removal of choice at Māhoe, when Nicola (Māhoe) described the administrative side of the design becoming “unmanageable” or “unwieldy”. These decisions to remove choice tend to show a shift from responsive pedagogy towards controlling student behaviour and choice (Nair, 2014), making the ‘management of time’ a priority (Aeon & Aguinas, 2017) rather than the student learning experience. This also could reflect the limited resources available in schools to cater for the diverse learning needs of many students, despite the underpinning values of the school. The participant-leaders did show, however, a willingness to adapt and respond through the value-based design which prioritised the student learning experience. Annual reworking of the organisational structure and prompt temporary adaptation of the schedule, when deemed necessary throughout the year, exhibited a more flexible and responsive approach to school organisation.

Earlier discussion also highlighted themes of control around teacher pedagogical practices with some teachers reluctant to relinquish embedded pedagogical ‘norms’ previously supported by traditional organisational structures. The discrepancy between some teachers attempting to retain elements of control through teaching practice, including ‘banking education’ approaches (Freire, 2005), and the transfer of control over learning time to the students could be seen as confusing, particularly to students. Remarkably, the student-participants, motivated by personalised learning plans developed through individual choice appeared to be highly engaged, particularly with the provision of longer, flexible blocks of time. Historically, within traditional settings, power within the classroom has been firmly wielded by the teacher who dictates the methods and boundaries of knowledge bestowal (Freire, 2005; Illich, 1995). As highlighted through previous discussion, the rearrangement of the physical setting, vision and value-based

curriculum design requiring alternate approaches to school organisational approaches compels a different approach to transfer of knowledge and power structures within each school, placing responsibility with the student.

The findings appear to show, one of the main barriers to these alternative approaches to school organisation is adaptation. Where teachers and students have difficulty adjusting their previous expectations and embedded experiences of teaching and learning, the alternate approach is less able to meet the needs of the students. Although the participants had not personally experienced this, their observations hinted at student de-motivation due to heightened responsibility, teacher attempts at implementing pedagogies inappropriate for the environment and misalignment with the vision of the school. Despite seeming more extreme in their approaches as compared to a traditional setting, both schools continued to maintain traditional elements in their approach to organisational design, namely; both schools implemented a timetable, both schools allocated time to a version of single-subject classes, one school separated into year levels, and one school implemented 40-minute time blocks within their schedule. To reiterate Laura's statement from the findings:

I think in the world that we're in it's very hard to stray too far from what is traditional, without causing a lot of anxiety for perhaps parents and students. I would say that the school has taken it about as far as you can before you have to call yourself an alternative school. (Laura, Māhoe, T)

What seems to be a fundamental component in the implementation of an alternate organisational structure and the shift in control, is a rearrangement of priorities embedded in the structure through the value-based designs of each school. Dovey and Fisher (2014) argue that if innovative design is "intended to support and encourage different ways of "doing education", then it is ideological" (p. 7). The question is, what ideological messages is this design structure sending as opposed to a traditional system? As previously discussed, any structure that inherently seeks to direct those within it is still underpinned by mechanisms of control (Foucault, 1979; Illich, 1995; Lefebvre, 1991), however, the establishment of student-centred priorities and the shift of control of time toward student directed learning does indicate a move away from traditional structures. In his experience of realising innovative change in schools, Heppell (2019) suggested that incremental implementation can still affect overall change. Despite referring specifically to change within schools, Heppell's suggestion could also be true of the acceptance of innovative approaches towards education as a whole. If one of the aims of ILEs is indeed to encourage inclusion and responsive educational approaches, as suggested by the New Zealand Ministry of Education (2016), a move away from rigid traditional timetable structures toward innovative and more flexible approaches to school organisation is perhaps an essential step.

Conclusion

This chapter has explored themes which emerged from the previous chapter with reference to the literature discussed in Chapter Two alongside the critical framework outlined in the Methodology. As previously mentioned, the intention of this study is twofold; to identify relationships between innovative pedagogy and school organisation, particularly in regards to how these relationships affect the allocation of time and structure of time within schools; and to investigate whether alternative approaches to school organisation are, in fact, a compelling alternative to the traditional model.

Through the discussion, connections were made between how innovative pedagogy affects the initial design of school organisational structures and how time is managed and allocated, how these structures then influence the pedagogical approach and practice of teachers and the repercussion of these structures and approaches on the experience of students. The value-based design approach alongside the desire to implement innovative pedagogical approaches encouraged the development of alternative learning models that still reflected the intentions of the New Zealand Curriculum. This alternate learning model required a different school organisational structure which allocated time to non-traditional learning areas such as student wellbeing and transdisciplinary learning. These types of learning also required larger stretches of time for more authentic learning opportunities. Teacher experience of the innovative model had both positive and negative implications, particularly around implementing innovative learning pedagogies. Teacher experience seemed directly related to the length of time provided and also linked to professional development opportunities. The student experience was related to individual choice, resulting in personalised learning plans, once again requiring longer lengths of time in which to complete tasks.

The outcomes of alternative approaches to school organisation were discussed with mixed outcomes. Inherently, these structures still expressed ideological underpinnings around control, knowledge and authority, however, there is a distinct shift from traditional models in the relationship of that control and knowledge with the alternate innovative organisational model shifting some of that control to the students. Returning to Freire's (2005) notions of organisation, when individuals are active and have autonomy within organisation and decision making rather than having organisational structures imposed on them, a system can work toward liberating rather than oppressing those within it.

Chapter 6: Conclusion

Introduction

Traditionally, time within schools is maintained and distributed through western approaches to administration and organisation, which are culturally and socially produced and often deeply ingrained in practice (Saltmarsh et al. 2015). This study explored alternate approaches to school organisation, seeking to understand relationships between innovative pedagogical practices, building design and school organisation and whether these alternate approaches offered a compelling alternative to the traditional model. In closing, this chapter presents a recapitulation of the study followed by a reflection on the limitations and struggles with methodology and research methods. The insights afforded by the study are discussed followed by avenues for further study and concluding with some final words discussing alternate school organisational practices.

The underlying assumption of this research is that traditional modes of teaching and learning are no longer adequate in providing today's students with the skills required for living in the 21st century (Alterator & Deed, 2018; Wall, 2016). These traditional pedagogies are reflected in how schools are organised and structured resulting in rigid timetables that limit student choice and do not promote deeper learning opportunities (Shernoff et al., 2014). The objective of this research was to understand relationships between innovative pedagogies, building design and school organisation, and to ascertain whether innovative approaches to organisation provide a compelling alternative to the traditional model. In particular, the study sought to answer the following research question:

How do innovative pedagogical practices influence approaches to school organisation, in particular timetabling, and how does innovative building design support these approaches?

Supplementing this research question and providing further context to the phenomena of alternative school organisational structures were the following three questions:

- 1. How do students and teachers experience these alternative approaches to school organisation in innovative learning environments?**
- 2. How is time being allocated by schools with innovative building design and what do these allocations signal?**
- 3. Why are these innovative approaches to school organisation being implemented and are they a compelling alternative to the traditional organisational model?**

The literature review established the context for the study, exploring Innovative Learning Environments, their design and potential for an extended array of pedagogical approaches including personalised learning opportunities (Byers et al, 2018, Nair, 2014). It also addressed school organisation as foundational to school design, affecting culture and pedagogy (Gislason, 2009) while also establishing often unnoticed ideological priorities through time allocation (Saltmarsh et al., 2015; Wright, 2017). Discourse was explored highlighting the opportunity for change accessible in ILEs to introduce flexibility and freedom in school organisational structures that could enable student autonomy and increase engagement through instances of deeper learning (Csikszentmihalyi et al., 2014; Shernoff et al., 2014).

The theoretical, methodological and ethical framing of the study enabled a coherent and rigorous research process to be adopted (Creswell et al., 2018). A critical theory perspective underpins the study, drawing on Foucault's (1979) observations of the control of activity and perceptions of discourse, Friere's (2000) critique of 'banking education', and Illich's (1995) arguments against 'hidden curriculum'. Collectively, these highlight elements of control that are both implicitly and explicitly present in educational contexts. After reflection on the research process, the qualitative study took the form of a multi-site exploratory case study (Chadderton & Torrance, 2011; Newby, 2014) that triangulated from interviews, observation and documentary analysis (Cohen et al., 2017; Vagle, 2016). A purposive sampling strategy using selective criteria was used to recruit eight participants from two schools demonstrating the phenomena in question; two students, four teachers, and two leaders in total. Careful ethical consideration was taken throughout the research process that upheld respect for participants and their autonomy (Faden & Beauchamp, 1986).

Interviews were conducted with each of the participants, enabling them to discuss their perceptions, experiences and thoughts on the organisational approach of their school. Each student was also observed for a day to understand the practical workings of the organisational structure and better appreciate the student experience within an alternate schedule. Two documents were provided by each senior leader to elaborate further on the function and implementation of each school's organisation. The data from each of these research methods was carefully and thoroughly thematically analysed and triangulated to inform the findings of the study, presented in Chapter Four. Careful consideration was taken of any ideological influences throughout the discourse, including my own, to support a critical, thorough and rigorous interpretation of the data. Grand narratives that can provide generalisations of the phenomena were avoided to prioritise the individual stories and experiences of the participants (Felluga, 2015).

In the findings chapter, themes of design and implementation, student and teacher experience, and outcomes of the organisational structure were presented through the narratives of the participants, corroborated by document analysis and observation data. The discussion then

synthesized the findings with the existing literature and critical theoretical understandings resulting in exploration of the relationship between physical space, pedagogical approach and school organisation.

A reflection on the limitations and strengths of the study

A reflexive attitude towards research is highlighted by Winkle-Wagner et al. (2011) as one of the most important factors of adopting a critical theory perspective. Reflexivity ensures the quality and rigour of a study ensuring all aspects of the research design are coherent and address the objectives of the study (Winkle-Wagner et al., 2011). Challenges presented by this study predominantly emerged from the methodology, involving data collection methods. Initially, the data collection undertaken for this study was to lead to a dissertation¹ with a smaller scope and collecting data from a single case study site. In the process of analysing the data from the single case study site, it became apparent that although relevant elements pertaining to the objectives of this study were present in the data, more extensive data was required to adequately address the research questions. This led to the recruitment of a second case study site, but also meant that the opportunity now existed to upgrade the research to a thesis. This had the advantage of allowing engagement in deeper analysis and reaching more robust conclusions based on the wider findings, also enhancing the triangulation process. It also provided opportunity for participants' narratives to be fully realised and understood in the findings of the research. The relationship I had built with my participants was based on them trusting me to share their stories and experiences fully for the benefit of school teaching and learning environments. With this in mind, I decided to increase the scope to allow for a full exploration and discussion of the findings and better represent the participants of the study.

Despite the increase in scope of the research, availability of time and capacity still influenced how much data collection could be undertaken. The observation conducted at each school consisted of only one day which could not reflect the entire daily experience of a student within a school organisational system. The presence of relievers for a large percentage of the day at Kōwhai, and the dedication of one lesson block to literacy testing at Māhoe resulted in the observation not being entirely representative of a typical school day for each student. These limitations of the method were taken into account, however, and were carefully considered during the data analysis phase of the research. These challenges presented could be mitigated through a more embedded ethnographic approach to observation, however, due to the limited scope of a Master's-level research study, this was not possible. Despite the frustrations presented by this research method, the observation undertaken was still necessary and meaningful for the findings of this study.

¹ In New Zealand, the term 'dissertation' is applied to a shorter research report based on a limited study; whereas a 'thesis' is a longer report based on a more substantive study.

Qualitative research does not necessarily seek to be generalisable; besides a critical focus is on achieving an understanding of the specific perspectives and narratives of a smaller sample of participants. In light of this, the results of this offer insights into the distinct experiences of the participants in relation to alternative approaches to school organisation. The limited sample of eight participants allowed me to spend more time listening to and rereading transcripts to deeply understand and interpret the participants' viewpoints and uncover ideological perceptions embedded in the discourse.

The complex interplay of time, space, and pedagogy

This study revealed complicated and reciprocal relationships between physical space, pedagogical approach, and the management and configuration of time. These complex relationships appear to consistently and often subtly influence multiple aspects of school design and organisational structures, reflected in the experiences shared by the participants. Understanding the pedagogical and spatial influences on their perceptions and experiences aided in my understanding of how issues of time are inextricably woven through decision making and the implementation of organisational models.

Traditional didactic pedagogical approaches to teaching and learning are no longer considered adequate in fulfilling students' educational needs in the 21st century (Kedian & West-Burnham, 2017; Nair, 2014; OECD, 2013). Instead, more dialogic and student-centred innovative pedagogies have been suggested as an appropriate alternative in providing integrated curricula that allow for student choice and personalised learning (Higham et al., 2014; New Zealand Ministry of Education, 2018). Wall (2016) and Nair (2014) both argued that learning environments need to reflect this change in pedagogy through the alteration of physical space from single cell classrooms that can only support didactic teaching approaches. These arguments have perhaps been justified through the research of Byers et al. (2018) and Wright et al. (2021) who observed that flexible physical environments support innovative pedagogies. Conversely, conventional pedagogical approaches are difficult to adopt in open and flexible learning spaces, and where students have greater autonomy in their learning (Byers et al., 2018; Wright et al., 2021). This research echoes the findings of this study, highlighting the interplay of space, pedagogy, and time.

Aside from space and pedagogy, the organisation of time is complex in a school context. It is managed and largely implemented by those in authority, and experienced by those within the structure (Foucault, 1979). Lefebvre (1991) contended that the social production of time is predominantly maintained through organisational practices such as plans and timetables which is reflected in the work of Foucault (1979) who observed that authorities dictate how time should be experienced through the partitioning of life by schedules. In the school context,

leadership teams are primarily responsible for the design and management of time within school organisation. Each case study school saw the leadership team prioritising innovative learning through value-based curriculum design, consequently influencing the organisational approach of each school. This design approach enabled the design of an alternative organisational structure that saw time being allocated authentically to reflect the pedagogical values of the school. Participant insights revealed that the commitment to innovative pedagogy through an integrated curriculum prioritising transdisciplinary learning required larger flexible spaces and larger allocations of time for successful engagement and completion of tasks, reflecting once more the interplay of time, space, and pedagogy. Although implementation of alternate school organisational structures in a traditionally designed school is possible, the restriction of space would present difficulties for the effectiveness of innovative pedagogies (Gislason, 2018).

Exploration into student and teacher experience of time highlighted a fourth thread in the previously stated complex relationship, namely that of 'control'. Teachers within this study held a significant role in the implementation of innovative pedagogy and any reticence on their part changed both how teaching and learning occurred as well as how time and space are controlled. Where flexible spaces encourage teachers to exchange didactic approaches for more innovative pedagogies (Benade, 2019), length of the period also impacted teaching approaches according to the participants. Teachers seemed to be more likely to implement traditional didactic pedagogies in shorter time periods, limiting student decision making and autonomy, a view echoed by other research (Shernoff et al., 2014). Conversely, the participants found they would be more flexible and responsive in the longer time blocks. Reflecting the findings of other studies (Deed & Lesko, 2015; French et al., 2020), however, teachers in the case study schools struggled to adapt their ingrained routines and practices resulting in misalignments between pedagogy and design, leading to a return to traditional approaches to time and space. Despite acknowledging the struggle some teachers have in adapting to the alternate structure, the participant-teachers expressed enjoyment, confidence and feelings of flexibility in the innovative school organisation.

Student experience of the school organisation resulted in, perhaps somewhat nebulous, connections between choice, engagement and time allocation. The relationship between choice and engagement is clearly articulated by Shernoff et al. (2014) who contend student autonomy and voice in learning choices is fundamental to intrinsic motivation. Project-based interdisciplinary pedagogies are highlighted by Blackmore et al. (2011) as integral to personalised learning. These modes of learning were reflected in each school's approach to curriculum and pedagogy, with the student-participants acknowledging these innovative pedagogies increased their motivation and engagement due to the learning providing personal relevance. As established earlier, not only do these pedagogical approaches require more space (Nair, 2014), but time is an essential element to the successful completion of tasks and to allow

students to experience deeper learning (Benade, 2017; Csikszentmihalyi, 2014). These points were also clearly identified by the participant-students. These insights further demonstrate the entanglement of time, space, and pedagogy. Further to this, the high occurrence of self-directed learning experienced by the students enabled by innovative pedagogical approaches shifted control of time from the teacher to the student, allowing more freedom and flexibility for students to address their own learning needs, also identified by Niemic & Ryan (2009).

Differing perceptions of knowledge and power demonstrated by the participants highlighted the complexity of school organisational approaches, their implementation and the lived experiences resulting from decision making. Time was allocated to areas the participants acknowledged as important and focused on the right priorities, in their view, such as relationships, innovative pedagogy and student wellbeing. The traditional approach to the structure and allocation of time which prioritises a 'one-size-fits-all' approach is inadequate in providing the flexibility that allows for individual student learning needs (Shernoff et al., 2014). This organisational approach attempts to reflect the OECD's (2013) intentions of personalised education models in allowing sufficient time to cater for inclusion and addressing the need of the individual rather than the collective (Nair, 2014). The administrative difficulties of maintaining this innovative system, however, resulted in leadership teams making changes that impacted student choice, demonstrating that the locus of control still remains with those in positions of authority (Wells et al., 2018). These shifts result in a misalignment of pedagogical goals and practice (French et al., 2020), with the removal of choice reflecting less responsive pedagogies, and prioritising time management rather than student experience.

Allocation of time within schools is a direct illustration of school priorities (Wright, 2017) whilst both implicitly and explicitly expressing themes and signalling ideology that constitute what Illich (1995) terms 'a hidden curriculum'. A substantial amount of time at each school is still allocated toward traditional approaches to education, in the form of individual subject teaching which sometimes led to traditional 'banking' pedagogies, which, either intentionally or unintentionally communicate messages of teacher control and inhibit student autonomies (Freire, 2005). Alternatively, the considerable allocation of time dedicated to student wellbeing, to transdisciplinary learning and to extended periods of learning all contribute to a pedagogy centred on students. This works towards sending the school community clear signals as to the values and focus of each school. Although the complications and challenges discussed present issues for contemplation and improvement, all the participants expressed preference for the alternate organisational model and excitement concerning the opportunities afforded by the innovative approach.

Further study

The development of this thesis contributed to my understanding of the research process, enhancing the academic skills necessary to engage in further study. Despite difficulties encountered through the methodological process and the typical challenges of study, confidence in my academic ability has grown significantly, with immediate plans to pursue developing insights from this thesis into a scholarly article. Exploration undertaken in this study has increased my interest in the relationships between how time and space are perceived in society, particularly in the education context, while my passion for inclusive and personalised education systems that benefit every student also increased.

Saltmarsh et al. (2017) and Blackmore et al. (2011) indicate this area of study to be relatively under-researched and this study indicates that there continue to be many avenues yet to be explored to examine the interplay of time, space, and pedagogy. This study provided a broad overview of the experiences of those within organisational structures, however further research of alternate approaches would make valuable contributions to the field of learning environments research, including more targeted studies of student and teacher experiences within rapidly changing school and world environments. Insights arising from the study can also inform the direction for further research. Wright (2017) emphasises that how schools allocate time defines how curriculum and learning are expressed. School design research focusing on organisation and implementation of time could positively contribute to the conversation around innovative learning environments and 21st century education approaches. There is scope for further research in the implementation of alternate organisational approaches in traditional buildings, including questions of how time can be more effectively allocated in these environments to allow for increased personalised opportunities and more embedded opportunities for deeper engagement. With the affordances of both time and space being incommensurable due to being separate ontological entities, each requires different treatment despite their relationship, as highlighted through this study. Further discussion around the tension between time and space would be a valuable contribution to the conversation around Innovative Learning Environments.

A compelling alternative?

Central to this study have been questions concerning traditional and alternative organisational models and most pertinently, whether the innovative organisational structures observed are in fact a compelling alternative to traditional approaches. This question has in many ways become the motivation and framing for this study. The answer to the question is, of course, complicated with multiple factors involved resulting in no clear answer. What measure is being used to evaluate how it is compelling? Compelling in what way? How are the benefits and

disadvantages of each system to be weighed and considered? These questions are convoluted and socially weighted, requiring further research and analysis to answer.

From a critical theory perspective, however, the question of ‘a compelling alternative’ can at least be addressed. The motivation behind critical theory is to uncover discourse that promotes inequality and inhibits liberation while pushing for social change (Cohen et al., 2017; Foucault, 1998; Winkle-Wagner et al., 2018). As previously discussed, traditional methods of school organisation are embedded as socially accepted norms of education, promoting the regulation of movement and placing control firmly in the hands of authorities, in the form of leadership teams and teachers (Foucault, 1979, Freire, 2005). This inhibits the autonomy and freedom of students who must function within the organisational structure imposed on them. The alternate organisational structures observed in this study are surprisingly similar, despite different leadership teams and varying values driving design. Both schools seek to place students and student learning as the priority and centre of their organisational models resulting in increased instances of personalised learning and transdisciplinary learning. These then lead to students having more opportunity to exert control and decision making over their own learning and use of time. Although both models still show areas of traditional organisation and control, there is at least an attempt to shift away from the prevailing norm toward more authentic learning outcomes for students. This endeavour to change the balance of control and allow freedom and flexibility within the organisational structure is, I believe, a step in the right direction toward a more inclusive and personalised education experience for students and therefore, if not yet the ideal solution, it is in actual fact a compelling alternative to the existing approach.

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Appendices

Appendix 1: AUTECH Ethics Application Approval

The AUTECH logo consists of the letters 'AUT' in a large, white, sans-serif font, with a stylized 'E' that has a horizontal bar. The logo is set against a black background.

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www.aut.ac.nz/researchethics

17 December 2020

Leon Benade
Faculty of Culture and Society

Dear Leon

Application: **20/412Time to learn: the influence of innovative learning environments on school organisational practices in a secondary school context**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTECH).

Your ethics application has been approved for three years until 17 December 2023.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTECH in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTECH prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTECH Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTECH Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard and that all the dates on the documents are updated.

AUTECH grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

Please quote the application number and title on all future correspondence related to this project.

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

The AUTECH Secretariat
Auckland University of Technology Ethics Committee

Appendix 2: AUTEK Amendments Application Approval

The AUTEK logo consists of the letters 'AUT' in a large, white, sans-serif font, with a small 'K' to the right. The letters are set against a dark background.

TE WĀNANGA ARONUI
O TĀMAKI MAKAU RAU

Auckland University of Technology Ethics Committee (AUTEK)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
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www.aut.ac.nz/researchethics

5 May 2021

Leon Benade
Faculty of Culture and Society
Dear Leon

Application: **20/412** **Time to learn: the influence of innovative learning environments on school organisational practices in a secondary school context**

Thank you for your request for approval of amendments to your ethics application.

The amendment to the recruitment protocol (additional case study site) has been approved.

I remind you of the **Standard Conditions of Approval**.

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTEK in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEK prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEK Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEK Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard.

AUTEK grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted. When the research is undertaken outside New Zealand, you need to meet all ethical, legal, and locality obligations or requirements for those jurisdictions.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through <http://www.aut.ac.nz/research/researchethics>

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

The AUTEK Secretariat
Auckland University of Technology Ethics Committee

Appendix 3: Confidentiality Agreement

AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Confidentiality Agreement

Title: Time to learn: the influence of innovative learning environments on school organisational practices in a secondary school context

Project Supervisor: Dr Leon Benade

Researcher: Belinda Mittermeier

- ☐ I understand that all the material I will be asked to transcribe is confidential.
- ☐ I understand that the contents of the tapes or recordings can only be discussed with the researchers.
- ☐ I will not keep any copies of the transcripts nor allow third parties access to them.

Transcriber's signature:

Transcriber's name:

Transcriber's Contact Details:

Email: _____

Mobile: _____

Date: _____

Project Supervisor's Contact Details:

Dr Leon Benade

lbenade@aut.ac.nz

027 433 8330

Approved by the Auckland University of Technology Ethics Committee on 17/12/2020, AUTEK Reference number 20/412.

Note: The Transcriber should retain a copy of this form.

Appendix 4: Indicative Questions for Senior Leader Interview

In this interview, I have three key aims:

- A. To understand how time is being allocated in your school and the rationale behind these decisions,
- B. To hear your understanding of how innovative building design supports alternative approaches to school organisation, in particular time and curriculum allocation,
- C. And to see what you think about the relationship between innovative teaching and allocation of time, or schedule;

During this interview, I will ask questions relating to the above three aims to get you thinking and discussing.

- 1. What factors do you consider when developing the school schedule?
- 2. Are there any specific areas you need to prioritise over others?
- 3. What requirements are set for you from authorities such as the board or ministry?
- 4. Who else has a say in the allocation of curriculum and time?
- 5. What messages do you want school organisation to be sending teachers and students?
- 6. Why have you decided on this approach to school organisation rather than a traditional model?
- 7. How are the structure and its rationale communicated to families and whanau?
- 8. What benefits do you think come from the module approach to curriculum allocation?
- 9. What disadvantages do you think come from the module approach to curriculum allocation?
- 10. Do you feel that enough time is allocated to areas that you consider to be important?
- 11. Do you think teachers have adapted their pedagogy to adjust to the different organisation of time and curriculum?
- 12. How do you feel the physical environment does or doesn't support the organisation of time and curriculum?
- 13. How do you think students engage with their own learning in the module approach?
- 14. If there were no external pressures, what would your ideal design for the schedule look like?

Approved by the Auckland University of Technology Ethics Committee on 17/12/2020, AUTEK Reference number 20/412.

Appendix 5: Indicative Questions for Teacher Interview

In this interview, I have three key aims:

- A. To hear your teaching experiences of alternative approaches to school organisation as opposed to a traditional organisation model.
- B. To find out your expectation of school organisation, particularly around scheduling and curriculum allocation;
- C. And to see what you think about the relationship between innovative teaching and allocation of time, or schedule;

During this interview, I will ask questions relating to the above three aims to get you thinking and sharing.

- A. To hear your teaching experiences of alternative approaches to school organisation as opposed to a traditional organisation model.
 - 1. What would you consider to be your specialty subject?
 - 2. Have you had the opportunity to teach other subject areas apart from your main curriculum speciality?
 - 3. What types of modules have you been involved in at this school?
 - 4. What is different about the way teaching and learning occurs in a module as compared with your previous experience in a traditional timetable model?
 - 5. What are some reasons you think these changes have been made?
 - 6. How do you work with and interpret the schedule?
 - 7. What has been your experience teaching in longer time blocks?
 - 8. Do you find yourself structuring lesson in a similar format to your previous teaching experience?
 - 9. In what ways have you adapted your teaching to adjust to the longer time blocks?
 - 10. Other specialities into your teaching time?
 - 11. How about planning?
 - 12. What benefits do you think come from the module approach to curriculum allocation?
 - 13. What disadvantages do you think come from the module approach to curriculum allocation?
 - 14. Do you adhere strictly to the schedule or is there allowance for flexibility within the timetable?
 - 15. How have you experienced the work load in your current workplace?
- B. To find out your expectation of school organisation, particularly around scheduling and curriculum allocation;
 - 15. Do you feel that enough time is allocated to subjects that you consider to be important?
 - 16. Are there some areas that you feel are being allocated too much or too little time?
 - 17. *Thoughts on printed timetable?*
 - 18. Do you feel like your subject has been allocated appropriate time?
 - 19. Do you think that there is enough time for students to grasp what you are teaching?
 - 20. Do you feel like this approach is quite flexible or just an extended traditional timetable?
 - 21. What is your teaching preference in regards to schedules?
- C. And to see what you think about the relationship between innovative teaching and allocation of time, or schedule;
 - 1. What do you think is the link between innovative teaching and the timetable?
 - 2. How do you feel the physical environment does or doesn't support the organisation of time and curriculum?
 - 3. How do you feel that school organisation supports you to implement innovative teaching practices?
 - 4. Do you think having time and curriculum organised as it is in this school supports you to be a more innovative teacher than your previous experience at a traditional school?
 - 5. How do you think students interpret the approach to time and curriculum allocation?

6. How would you design your ideal schedule in a school?
7. Is there anything else that you think is relevant that we haven't covered?

Approved by the Auckland University of Technology Ethics Committee, AUTEK Reference number 20/412.

Appendix 6: Indicative Questions for Student Interview

In this interview, I have three key aims:

- A. To hear your experiences of alternative approaches to your school organisation (mainly the schedule).
- B. To hear your thoughts and ideas of school organisation, particularly around scheduling and curriculum allocation;
- C. And to see what you think about the relationship between innovative teaching and allocation of time (timetable);

During this interview, I will ask questions relating to the above three aims to get you thinking and sharing.

1. Can you describe some of the modules you have elected to participate in at this school?
2. What are your thoughts on having more than one subject covered in a module?
3. What are some challenges to having more than one subject covered in a module?
4. What are some benefits to having more than one subject covered in a module?
5. Do you feel that enough time is allocated to subjects that you consider to be important?
6. Why do you think modules have been structured this way at your school?
7. When you look at your schedule, what do you think your school thinks is valuable learning?
8. What do you think is the link between your learning and the timetable?
9. If you were a teacher, would you prefer hour long periods or longer modules and why?
10. Can you describe some of your experiences learning in 80 minute modules?
11. What are some challenges to learning in 80 minute blocks?
12. What are some benefits to learning in 80 minute blocks?
13. Do you feel you get choices of when and what you learn?
14. What subjects do you consider important, and do you think enough time has been allocated to them?
15. What do you think is the link between physical spaces of learning and the timetable?
16. Do you feel your experience as a junior learning in this type of schedule has differed from your learning experience as a senior?
17. How would you design your ideal schedule in a school?
18. I noticed in the observation that What are your thoughts on that?

Approved by the Auckland University of Technology Ethics Committee on 17/12/2020, AUTEC Reference number 20/412.

Appendix 7: Indicative Observation Schedule

Details		
Teachers Present: Year Level: Module Subject:		
Activity	Duration	Notes
Teacher Input Time		
Individual Student Directed Learning		
Off-task Time		
Pastoral Time		
Resource (Roll, Setting Tasks, Student movement to class/new seating etc.)		
Overall Lesson Time		

KEY TERMS

What reference, if any, does the student make to time/schedule/module/subject?

How frequently does the student refer to these terms?

ACTIVITIES

Types of activities, curriculum focus of activities, length of activities, group vs. individual vs. pairs, self directed learning or teacher directed

How are the activities being described, justified, explained, organized, labelled?

How routine, regular, patterned, irregular and repetitive are the behaviours?

ENGAGEMENT

When is the student on task, off task etc.?

Is the student familiar with the types of task?

Who is making decisions?

What type of learning is being prioritised?

How often does the student engage with the teacher individually?

SCHOOL ORGANISATION

How are resources being used and allocated?

Are resources in support of students or teachers?

Approved by the Auckland University of Technology Ethics Committee on 17/12/2020, AUTECH Reference number 20/412.

Appendix 8: Indicative Participant Information Sheet: Teachers



TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Participant Information Sheet: Teachers

Date Information Sheet Produced:

10/11/2020

Time to learn: the influence of innovative learning environments on school organisational practices in a secondary school context

An Invitation

My name is Belinda Mittermeier, and I am a Master of Education student in the School of Education at AUT. I am interested in researching school organisational practices, particularly how time is allocated and structured in an innovative learning environment. This research will contribute to my Master of Education degree and I would like to invite you to participate in this study.

What is the purpose of this research?

This study is critical exploration of school organisational practices, specifically the structure and allocation of time in a selected innovative learning environment. I wish to understand whether these practices reflect innovative approaches to learning and examine the underlying priorities and values these imply. I would like to discuss with teachers their experiences of school organisation in flexible learning spaces.

The findings of this research will be disseminated as a student thesis, in academic publications and in oral presentations.

How was I identified and why am I being invited to participate in this research?

You have recently (in the past two years) transitioned from a traditional teaching environment to an established innovative learning environment school with an alternative approach to scheduling.

I may have been introduced to you and/or your colleagues, to invite you to participate in my research. In other cases, your school will have circulated my details to potentially interested teachers, and you have responded to that invitation. I have not had any access to your private details.

How do I agree to participate in this research?

With this information sheet is a Consent Form. Please complete it, scan it and return to my email address (at the bottom of this document), or, if we meet in person you can give it to me at the interview.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

I will interview you for no longer than one hour at your school at a time which is convenient for you. The interview will be digitally recorded and stored, and we will discuss your expectations and insights into school organisation, in particular the allocation of time and curriculum, understand your thoughts around the relationship between innovative teaching and school organisation, and your experiences teaching in these organisational arrangements. The recording will then be transcribed and analysed. Your contribution will be generalised along with other interview transcripts and within documentation you will be referred to with a pseudonym.

What are the discomforts and risks?

It is expected there will be minimal risk to you since the topics being discussed are unlikely to prove personally intrusive, however, you may be experiencing frustration or annoyance around aspects of school organisation. If this is the case, capturing your honest reflections for research and wider knowledge transfer is important, but if you think this research will upset you, then it may be best not to participate. If, however, you are interested in this topic, then sharing your views will be helpful.

How will these discomforts and risks be alleviated?

My questioning and prompts are not intended to provoke negative feelings; my intention is to capture a snapshot of your experiences and viewpoints. You may choose not to answer any questions if you so wish. Once interview recordings are transcribed, I will send a copy to you to check that your words are correctly captured, and then you can ask for changes or deletions to be made.

What are the benefits?

You will receive no direct benefits from this research, however, teachers' insights are important to educators generally. You are therefore a critical partner in this research study, and I am sure you will be interested in the outcome of the research. I will analyse the information I gather during this research study to prepare articles and my Master of Education dissertation. Since the findings from the interview will be assessed, your involvement contributes to my Master of Education qualification.

How will my privacy be protected?

You will be de-identified when I write up the research; comments made in interviews are treated as strictly private and confidential. As we will have face-to-face contact, I cannot offer any anonymity, but my ethical conduct as a researcher is focused on doing no harm to my participants. The transcript of the interview will be strictly confidential and stored in a restricted access folder which only the research supervisor and I will be able to access. The transcript and any private material will not be provided to your colleagues, or principal and your names and contribution will not be shared with any other schools or organisations.

What are the costs of participating in this research?

The only cost to you will be to volunteer no more than an hour for an interview, and possibly another 30 minutes to review a transcript at a later stage.

What opportunity do I have to consider this invitation?

Two weeks after the first invitation (there will be a reminder after the first week)

Will I receive feedback on the results of this research?

You will receive a transcript of the interview. Once the findings are concluded, these will be sent to you as a one-page summary. As and when my research becomes an 'output', this will be made available to those who have requested this on the Consent Form.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Leon Benade, email: lbenade@aut.ac.nz tel: (09) 921 9999 ext 7094

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Research Contact Details:

Belinda Mittermeier

Email: belindamittermeier@gmail.com

Mob: 021 987 076

Project Supervisor Contact Details:

Dr Leon Benade

Email: lbenade@aut.ac.nz

Phone: (09) 921 9999 ext 7094

Approved by the Auckland University of Technology Ethics Committee on 17/12/2020, AUTECH Reference number 20/412.

Appendix 9: Participant Recruitment, Student Advertisement

Time to learn: the influence of innovative learning environments on school organisational practices
You are invited to take part in an observation and interview to share your experiences of being in an ILE school.

MAKE A DIFFERENCE!



Are you Year 12 or 13?

Are you interested in sharing your experiences of how your school is organised?

I am looking for a student to observe throughout one school day (not including break times!) followed by an interview (an hour max) - so if you are interested in sharing your school experience, **please register your interest at Reception, or email or text me.**

Belinda Mittermeier
School of Education
Masters student at AUT
belindamittermeier@gmail.com
021 987 076

Approved by the Auckland
University of Technology
Ethics Committee on
17/12/20, AUTEK
Reference number 20/412.

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