An Exploration of the Nature of Physically Active Play in New Zealand Early Childhood Education

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Abstract

The provision of physically active play (PAP) varies amongst early childhood services, directly impacting the experiences and opportunities available to children. This is a significant issue because PAP is a central component of the curriculum within the New Zealand early childhood service identified within the curriculum *Te Whāriki*. I undertook this study to understand the activity of PAP within early childhood education practice, where I presumed tensions and contradictions in delivering a quality PAP programme would be revealed.

As teaching in an early childhood setting is both an individual and collective activity often influenced by interpersonal factors, I explored the nature of PAP through the lens of Cultural Historical Activity Theory (CHAT). This study utilised second generation activity systems analysis as an exploratory tool to reveal how the activity system for PAP operated in each centre. Data comprised teachers’ surveys, a group interview, observations, and documentary evidence from five centres. From this, representations of teachers’ individual activity systems were produced before being analysed collectively to model the activity systems for PAP at each centre. The findings in each case setting revealed the unique tensions, contradictions and successes of the system as the teachers’ worked toward current objects. A cross-case analysis of the activity systems attended to the major research question of the study: What is the nature of PAP in city-based early childhood centres in New Zealand? The analysis revealed how the activity system mediated teachers’ movement toward the immediate objects that they held and the ultimate outcome of a quality PAP programme underpinned by *Te Whāriki*. 
Affirmed within this study is the scope and usefulness of CHAT as a conceptual framework to understand the contextualised practice of PAP in early childhood services. The findings revealed the objects teachers were working on within PAP ranged from: the PAP programme, parent education, self-review, and structured physical activity sessions. I argue that the most influential factor in the collective pursuit of the objects was interpreted to be teachers’ beliefs and values. These underpinned teachers’ motivations, preferences, and tacit rules which had implications for children’s learning. I argue the need for teachers to discuss issues such as their own risk anxiety to ascertain whether the image they hold of the child is reflected in practice. I suggest that open dialogue on these issues presents a way to mitigate such contradictions as found in this study. Furthermore, I argue the value of professional development (PD) which was found to change the activity system and resulted in the adaption of new resources which advanced the teachers’ pursuit of objects. There was strong evidence where teachers sought to align their beliefs and values in delivering a quality PAP programme with their perceptions of parent’s expectations of early childhood education through a range of instruments. I argue that these instruments which included communicating the PAP philosophy at the time of enrolment, discussions with parents, and family events enhanced the PAP activity system. Such instruments enabled teachers to achieve success in their aspirations for parent education and ultimately a quality PAP programme.
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Chapter One

Introduction and Justification for This Study

I begin this chapter by establishing the working definitions to several key terms utilised in this study. Physical activity has been defined by Livingstone, Robson, Wallace, and McKinley (2003) as “all locomotor physical activity, which involves large muscle groups to move the body around and to apply force to objects” (p. 682). Moreover, Brady, Gibb, Henshall, and Lewis (2008) have defined physically active play (PAP) as, “Any physical activity where the child is doing what they want to do for their own reasons” (p. 6). For the purposes of this study I have defined PAP as “any play that exerts and exercises the body”. As this is a New Zealand study, frequent reference will be made to the Early Childhood Curriculum: Te Whāriki (Ministry of Education, 1996). Therefore, an appendix has been included providing an overview of this curriculum document detailing the interwoven principles, stands, and goals where subject content areas are embedded (Appendix A). Te Whāriki states the following aspirations for children upon which the curriculum is founded:

> to grow up as competent and confident learners and communicators, healthy in mind, body, and spirit, secure in their sense of belonging and in the knowledge that they make a valued contribution to society. (Ministry of Education, 1996, p. 9)

Within this curriculum statement the importance of a healthy body supports the notion of PAP as an integral component of a holistic approach to early childhood education in New Zealand. Therefore, the curriculum is defined as including play that exerts and exercises the body, within the curriculum proposed in Te Whāriki (1996) as, “the sum total of experiences, activities, and events, whether direct or indirect, which occur within an environment designed to foster children’s learning and development” (p. 10). As such, a working definition of a
quality PAP programme becomes one where children engage in any play that exerts or exercises the body, and contributes to children’s self-esteem, behaviour, skill development, self-regulation, and language development, and builds a positive attitude central to maintaining a physically active lifestyle (O’Connor & Temple, 2005; Vidoni & Ignico, 2011). The provision of physical activity experiences and opportunities vary among early childhood centres and are still often influenced by their philosophy, the emphasis of the programme, and their facilities and resources (Bilton, 2010; Stork & Sanders, 2008; Venetsanou & Kambas, 2010). *Te Whāriki* recognises and celebrates this diversity, for example, by identifying how the curriculum may be facilitated through a combination of structured activities and free play activities. Structured activities can be defined as teacher-led, specifically planned activities, for example, organised games such as soccer. Free play activities are defined as spontaneous individual and collective child-led play, such as climbing or chase with friends. For example, *Te Whāriki* states:

> The curriculum integrates care and education and includes both specifically planned experiences and activities and interactions that arise spontaneously. The whāriki concept recognises the diversity of early childhood education in New Zealand. Different programmes, philosophies, structures, and environments will contribute to the distinctive patterns of the whāriki. (Ministry of Education, p. 11)

International studies have shown that societal views have changed in respect to the value of physical activity in a child’s early years (Carson, 2001; Stork & Sanders, 2008). They suggest that this is an age of accountability, focused on school readiness in the cognitive and behavioural sense, thus a relatively low level of importance is assigned to physically active play (PAP) programmes (Brown et al., 2009; Maynard & Waters, 2007). This international evidence suggests that early childhood programmes are well placed to provide quality PAP
programmes as part of the curriculum, and that it is essentially the role of the teacher to provide this framework and provision in a well-facilitated environment (Copeland, Kendeigh, Saelens, Kalkwarf, & Sherman, 2012; Dyment & Coleman, 2012; Maynard & Waters, 2007). Given the extent of this international evidence, it is important to further advance the New Zealand perspective. In this section, I will outline the objectives of this study based on my interest in enhancing PAP in the early years. I present an overview of the current understandings based on recent studies, highlighting gaps which this study seeks to address.

This study sought to explore the nature of PAP in New Zealand early childhood education. Investigating ways to enhance the physical domain in the early years has long been a passion of mine. In 2013, I completed a Masters thesis which critically analysed the teacher’s role, and assessment and planning methods to support children’s physical skills development. Within that self-study, I trialled a range of assessment tools aimed to support planning. In addition, I contrasted free play and structured teaching approaches as I strove to explore the implicit motivation of children to engage with physical activity. I also facilitated a community of practice which included parents and teachers from the early childhood and primary sectors. We combined practical solutions to raise physical activity outcomes the community of practice desired for children. For me, this community platform generated an understanding of the wealth of knowledge available to advance physical activity opportunities, which can remain hidden if not shared. Hence, I aspired to generate knowledge about PAP. In revealing the nature of PAP at several early childhood centres, I strove to facilitate an understanding of teachers’ lived experiences, including their aspirations, successes, and tensions.
From my own perspective, which encompasses 24 years as an early childhood teacher, I believe that PAP and physical activity planning can be undervalued and unsupported by teachers as part of regular teaching practices. Over the years, teachers have expressed to me their lack of confidence, knowledge, and teaching strategies to facilitate the physical dimension of a holistic curriculum, which has impacted their motivation and preferences surrounding PAP. To me, this is worrying given that several structured PAP programmes are available to the New Zealand early childhood sector, for example, Playball© and My Gym. In such programmes, specialist coaches attend the centre to deliver a PAP programme at an added cost to parents or the centre (Playball New Zealand, 2013). These programmes can enable teachers who lack confidence, knowledge, or skills to support PAP, to circumvent their roles in delivering this facet of curriculum. In my view, these new programmes have created a source of tension amongst the sector concerning the outsourcing of this curriculum area. It poses the question, are teachers being adequately supported in pre-service and in-service training to feel confident and competent to deliver PAP programmes? This study seeks to explore the nature of PAP through an activity systems analysis at five early childhood centres in New Zealand which may provide an insight into how PD is being utilised to support teachers’ aspirations for PAP.

In addition, I have observed that a source of tension can develop when parents’ and teachers’ beliefs and values about PAP are misaligned. This study aims to explore teachers’ beliefs and values surrounding PAP in five New Zealand centres, which may advance an understanding of how teaching teams work collectively to navigate tensions in their centre environments. In the following section, I provide an overview of the research which is central in arguing the purpose and intent of this study.
Teachers’ beliefs, values, attitudes, and assumptions shape the design and implementation of PAP programmes (Gibbons, 2005; McLeod, 2002; Reynolds, 2007). The teacher’s role in supporting curriculum can be a controversial and complex issue amongst early childhood educators, especially when their teaching philosophies differ (Brown et al., 2009; Herskind, 2010; Kos & Jerman, 2013). New Zealand teachers have different views about whether learning is best facilitated through structured play or free play, particularly when discussing PAP and the teaching practices most appropriate to building complexity into PAP learning (Greenfield, 2007; Hussain, 2011; Stephenson, 1998, 2003). This study will explore how PAP is being facilitated in five New Zealand early childhood centres to add to this body of knowledge. In attending to the question, how do teachers manage the learning environment to support emerging interests in the physical curriculum? it is expected that I will reveal, for example, how choices are made about what is offered for PAP, whether or not children had input into those choices or could have some agency about ways they would engage with what was offered.

Other factors including routines, policies, and regulations, also affect teachers’ abilities and motivation to provide physical activity opportunities as part of the curriculum (Lockie & Wright, 2002). There is little empirical evidence about New Zealand teachers’ perspectives and their roles facilitating physical activity opportunities in early childhood education (see for example Greenfield 2007, Stephenson 1998). Further investigation would provide insight into how teachers are interpreting and implementing our national curriculum to support PAP in a New Zealand context.
Three studies have been published on children’s outdoor experiences in single New Zealand centres (Greenfield, 2004, 2007; Stephenson, 1998), and two further studies on collaborative outdoor play and chase games (Hussain, 2011; Mawson, 2011). The current study explores five early childhood centres’ PAP activity systems using the theoretical perspective of Cultural Historical Activity Theory (CHAT) and the method of an activity system analysis. Through this lens, I will develop an understanding of each individual teacher’s activity system for PAP and the teaching team’s collective system within each site. Following Engeström’s (1987) model, I provide a working definition of the PAP activity system. The PAP activity system is a holistic view of the activity of PAP revealing how teachers were working toward their immediate objects (as goals), mediated through instruments, rules, community, and division of labour as they strove to achieve the ultimate outcome of a quality PAP programme. I will identify significant areas of tension and contradiction in the activity systems, and see how teachers sought to overcome these. This is multiple case study research, where I present the findings and discussion from each early childhood centre before undertaking a cross-case examination of PAP across these five sites. The way the activity systems flex and expand as they are enacted provides a unique perspective previously unexplored in the provision of PAP in the New Zealand early childhood sector.

The study explores the following main research question:

- What is the nature of PAP in city-based early childhood centres in New Zealand?

I extend this into four further sub-questions:

- What are teachers’ aspirations for PAP and how are they able to realise these?
• How do teachers manage the learning environment to support emerging interests in the physical curriculum?
• How is the physical education curriculum planned and implemented?
• What are teachers’ beliefs and values surrounding their role in facilitating PAP?

Overview of this Thesis

This research report contains nine chapters. This first chapter introduces the study. It provides the background and justification upon which this study is placed. The main research question and sub-questions explored within this project are outlined.

In Chapter Two, I synthesise and critique a body of literature canvassing early childhood education and PAP. I investigate the nature of PAP in early childhood education and explore what is known about the provision of PAP overseas and in New Zealand. From this literature review, I identified several gaps in our understanding, in terms of PAP as part of a holistic curriculum, quality PAP, assessment and planning, the teachers’ role in PAP, factors that impact the teachers’ role, and structural factors which impact the PAP programme.

In Chapter Three, the methodology of this study is outlined beginning with the epistemological foundations and the conceptual framework for utilising CHAT. Thereafter, I describe the research methods, site selection, participants, data collection, data analysis, and the strategies I employ toward ensuring quality. The ethical issues I contended with and my own research subjectivity is also discussed.
As this is a multiple case study project, Chapters Four through Eight present a case for each of the five centres where the findings and discussion of each individual centre’s PAP activity system are presented, before attending to the cross-case analysis in Chapter Nine. I outline each of these chapters forthwith.

In Chapter Four, I present a case study of PAP at the Sunrise Centre, illuminating the collective activity system and the areas of contradiction. The Sunrise Centre’s case study reveals that teachers’ beliefs and values, which became enacted as tacit rules, impacted the children’s engagement with PAP. Furthermore, teachers felt the need to undermine their free play philosophy in order to add structure. I describe how teachers felt constrained by factors (such as regulatory safety constraints) which they deemed to be outside their control. A further tension explored is between teachers’ and parents’ perceived expectations of valued learning experiences in early childhood education and their priorities toward PAP. The teaching team developed a range of initiatives to overcome these contradictions as they advanced their PAP activity system objects.

The Pastel Centre provides the case for Chapter Five. In this early childhood centre, the analysis shows four main areas of contradiction and several instruments introduced by teachers which moved the system toward achieving their objects. These included PD, planning, policies, teaching strategies, and Playball©. In the Pastel case I discuss how the system’s uptake of the instruments (which supported their engagement in planning) led to the
effective advancement of the objects, and ultimately to their outcome of a quality PAP programme underpinned by *Te Whāriki*.

In Chapter Six, I present the case study of PAP at the Limelight Centre. I explore contradictions which stemmed from teachers’ beliefs and practices and limited children’s outdoor access, their ability to engage in physical activity inside, and their ability to pursue their own goals. Routines and policies also worked to restrict children’s outdoor access at the Limelight Centre. The CHAT analysis provides insight into how contradictions, created by teachers’ beliefs and values being enacted as rules, constrained the advancement of the PAP programme object.

Chapter Seven, is a case study of PAP at the Funtimes Centre. Here, I explore how the activity system was flexing and expanding, following a series of serious accidents in the outdoor environment. I discuss how the teachers engaged new instruments, including self-review tools, to support their beliefs and values to provide challenge and risk. However, some teachers continued to feel anxious about managing certain equipment, and together the team explored ways to make the environment feel safe for them. The team used PD through a community of practice and their work to uphold an organisational culture which valued dialogue and reflection as instruments to increase their tolerance to risk. I discuss how these instruments at the Funtimes Centre supported honest and open dialogue surrounding teachers’ fears and anxieties as they strove to transform the nature of PAP.
The Rainbow Centre provides the case for Chapter Eight, where teachers support a child-led curriculum. As younger children had begun to attend the centre, teachers were pursuing the object of self-review to ensure the PAP programme met the needs of these children. In this early childhood centre, teachers’ beliefs and values were prioritised to enhance challenge and risk in order to advance their PAP programme object. I discuss the teachers’ instigation of rules to manage challenge, risk, and their own anxieties, which undermined the child-led curriculum. In addition, teachers prioritised educating parents about the benefits of physical activity, and increased parent support by utilising a range of instruments.

Chapter Nine is a cross-case analysis of the five early childhood settings activity systems. In this chapter, I draw the activity system analyses together to discuss the research questions, where commonalities across centres are revealed. Teachers’ aspirations for PAP were identified as the PAP programme, self-review, parent education, and structured physical activity sessions. Self-review was being pursued at four centres, where the nature of PAP was being advanced through common instruments of PD, Playball©, structured activities, teaching strategies, and planning. PD emerged as a significant instrument in assisting and motivating teachers to realise their aspirations for PAP. The PAP programme was being pursued at all five centres through instruments and rules which included policies, teaching strategies, and changes to equipment. Parent education was being advanced at three centres through the instruments of Playball©, discussions with parents and learning stories, where teachers were revealed as strong advocates for PAP. Structured physical activity sessions was being advanced as a separate object in one centre through the instruments of yoga, PD, teaching strategies and the trialling of Playball© and Trampolining World. In each of the five centres, the teachers’ work in the emergent PAP space was found to be constrained by rules including regulations, bike rules, and those stemming from teachers’ risk anxiety.
Teachers’ beliefs, values, and practices were often found to be misaligned as a result of risk anxiety, evidenced at three centres. At each of the five centres planning and implementing PAP was being supported through learning stories and planning of the outdoor environment. Teachers’ beliefs and values about PAP were reflected in their provision of both free play and structured PAP activities at four centres. These teachers utilised teaching strategies which included modelling, scaffolding, encouragement, and teacher participation. In the final section of the chapter, I discuss the implication of this study for teaching and learning in PAP and what this study contributes to knowledge in the field. I finish by suggesting avenues for future research as I draw the thesis to its final concluding comments.
Chapter Two

Literature Review

Introduction to the Literature Review

This chapter seeks to place my study on the nature of PAP, in New Zealand early childhood education, in the broad context of existing literature where I consider six interrelated aspects of PAP in early childhood education: PAP in the curriculum, quality PAP, assessment and planning, the teachers’ role, factors that impact the teachers’ role, and structural factors that impact the PAP programme. Given the paucity of New Zealand studies relevant to PAP, it was necessary to draw regularly from the work of those such as Stephenson (1998, 2002, 2003) and Greenfield (2004, 2007, 2010) whose studies while small scale, and in some cases dated, offer an important contribution to the landscape of PAP in New Zealand. To mitigate an over-reliance on these national studies, I also drew on international perspectives. International literature provides a domain-driven and developmental orientation which was congruent with New Zealand perspectives until the mid 1990’s. Since the introduction of Te Whāriki (Ministry of Education, 1996), sociocultural perspectives have been privileged in New Zealand (Carr, 2001; Nuttall, 2003). Therefore, in beginning this literature review which sets the scene for understanding “What is the nature of PAP in city-based early childhood centres in New Zealand?”, I explore PAP in the curriculum where children’s health and wellbeing is supported. I discuss the differentiation between domain-driven and sociocultural perspectives and define the PAP programme as part of a holistic curriculum. Next, I discuss the concept of a quality PAP programme internationally and nationally. I
consider assessment and planning for children’s learning in and through PAP before moving the discussion to the teachers’ role in delivering a PAP programme, beginning with the nature of teachers’ implicit theories before attending to teachers’ practices. I then consider the factors which impact on the teachers’ role before transitioning to structural factors that impact the PAP programme. Finally, the review concludes with a summary outlining the contribution this study will make to the existing body of knowledge on PAP.

**PAP in the Curriculum**

Many studies have sought to establish the influences on a child’s early years that positively or negatively impact their health and well-being (see Brown et al., 2009; McClintic & Petty, 2015; Okely, Trost, Steele, Cliff, & Mickle, 2009; Venetsanou & Kambas, 2010). New Zealand health statistics provide a substantive argument for the importance of PAP within the early childhood curriculum (Ministry of Health, 2012) where continually rising obesity rates give rise to the importance of physical activity as part of a healthy lifestyle. In this section, I discuss these influences including social factors and living conditions, as I advance an understanding of why a quality PAP programme should form part of a holistic curriculum. I consider the nature of PAP within the curriculum through recent studies, providing both international and New Zealand perspectives. In attending to the difficulty of amalgamating knowledge drawn from international and New Zealand PAP studies throughout this review, I discuss the historical context of teaching and learning in New Zealand which has transitioned from a domain-driven developmental approach to that which embodies sociocultural perspectives (see Fleer, 2013; Nuttall, 2013; Te One 2013). I situate *Te Whāriki* (Ministry of Education, 1996) as a descriptive, holistic framework with learning dispositions, working theories and mana as valued learning outcomes for children (Carr, 2001; Reedy, 2013).
Mana is defined in the Maori dictionary as, “prestige, authority, control, power, influence, status, spiritual power, charisma - mana is a supernatural force in a person, place or object” (Te Aka Online Māori Dictionary, 2016). I discuss the concept of Te Whāriki as an aspirational, rather than prescriptive, curriculum (Broström, 2013; Cullen, 2003; Fleer, 2013; Hedges, 2013; Oliver & McLachlan, 2006). Having discussed each of these factors, I conclude the section with an overview of PAP in the curriculum.

Central to the current debates on PAP are social factors including the increase in the use of electronic devices, socioeconomic circumstances, and living conditions (Venetsanou & Kambas, 2010). Significant evidence suggests children today are less active, representing a lifestyle shift and a risk to children, which has increased over the past decade (Anderson, Huston, Schmitt, Linebarger, & Wright, 2001; Brown et al., 2009; Christakis, Ebel, Rivara, & Zimmerman, 2004; Clements, 2004; Evans, 1995; Pate, McIver, Dowda, Brown, & Addy, 2008; Robinson & Sirard, 2005; Temple & Naylor, 2010; Temple, Naylor, Rhodes, & Higgins, 2009; Williams, 2008). The key findings of the 2011/12 New Zealand Health Survey indicate obesity in children aged 2-14 years has increased from 8% in 2006/07 to 10% in 2011/12, with a further 21% of children overweight but not obese (Ministry of Health, 2012). A lack of physical activity is only one of several factors (including impoverishment) which can be attributed to rising childhood obesity; nonetheless, it must be considered a significant contributing factor (Dawson, Hamlin, Ross, & Duffy, 2001). Hence, there is a compelling argument to explore the provision of PAP programmes as part of a holistic curriculum in early childhood education. Early childhood services are uniquely positioned to overcome environmental factors constraining a child’s physical activity opportunities.
Environmental factors, including safety concerns and increased urbanisation, are significant in influencing a child’s physical activity opportunities (Okely et al., 2009; Venetsanou & Kambas, 2010). The less time children have to experience physical activity in their home environment the greater the importance of a quality PAP programme in their early childhood centres (McClintic & Petty, 2015). After conducting a narrative synthesis of quantitative studies, Venetsanou and Kambas (2010) established several factors which influenced physical activity during infancy and early childhood: a child’s society, living conditions, socioeconomic circumstances, and child-rearing practices. Some of these constraints such as a lack of opportunity for families to enjoy recreation due to financial pressures or a lack of space in the home environment, reside largely beyond the control of parents. However, the role of the early childhood centre can be central to mitigating such barriers.

Strong international and national evidence has pointed to early childhood services as favourably positioned to promote programmes where children are supported in physical activity opportunities in a well-facilitated environment (Bilton, 2010; Carson, 2001; Copeland et al., 2012; Dyment & Coleman, 2012; Kos & Jerman, 2013; Lucas & Schofield, 2010; Maynard & Waters, 2007; Sevimli-Celik & Johnson, 2013; Stork & Sanders, 2008; Venetsanou & Kambas, 2010). Studies based in New Zealand and overseas have all posited that PAP opportunities provided in the context of rich teacher-child interactions are influential in building positive perceptions toward health and well-being (O’Connor & Temple, 2005; Vidoni & Ignico, 2011), contributing to gains in children’s self-esteem (Hussain, 2011; Vazou, Mantis, Luze, & Krogh, 2016; Zachopoulou, Trevlas, & Konstantinidou, 2006), behaviour (Hill, 2014), aiding skill development (Hussain, 2011; Zachopoulou, Trevlas, & Konstantinidou, 2006), self-regulation (Hill, 2014; Hussain, 2011), and language development (Vazou, Mantis, Luze, & Krogh, 2016). In addition, some
international studies have pointed to the role of the early childhood setting in increasing parental awareness of the benefits of PAP and providing activity ideas, which could be transferred to the home environment (Chow & Humbert, 2011, 2014; McClintic & Petty, 2015; Tucker, van Zandervoort, Burke, & Irwin, 2011). Such studies reinforce the importance of providing PAP in the curriculum. However, in order to understand the nature of this provision, from a New Zealand and international perspective, I must first discuss early childhood perspectives on teaching and learning.

Historically, in Western culture the traditional view of child development was through domains of physical, intellectual, emotional, and social skills (Fleer, 2013; May, 2002). Developmentalist, child-centred, Piagetian-based and teacher-led approaches to teaching in early childhood education (Fleer, 2013; Nuttall, 2013; Te One, 2013) prevailed before the rise of Te Whāriki (Ministry of Education, 1996) in New Zealand. Such views remain strong in many world countries. A Piagetian-based or developmental model accounts for learning by suggesting that children learn through engagement with developmentally appropriate materials and through interactions that match their current level of development, according to age and stage (Berk, 2006; MacNaughton & Williams, 2008). This perception of learning foregrounds concepts of maturation, readiness, age and stage theory and child-initiated free play (Dockett & Fleer, 2003; Berk, 2006). When teachers’ practices lean towards this theory of child development (often identified using interchangeable terms such as free play, child-centredness or child-led) the teachers’ role is thought best to be more of an observer and supervisor to child-initiated free play; furthermore, teachers will tend to be the provider of resources and activities that children may freely explore on their own terms (Dockett & Fleer, 2003; MacNaughton & Williams, 2008). According to this theory of development and learning, children will master physical skill competencies within a generally non-
interventionist approach to teaching and learning: it is the predetermined developmental pathway that will eventually lead to physical skill attainment after interaction with age and stage matched resources and experiences. A teacher-led approach may prevail in a developmental view as well. This is where teachers may provide direct instruction, at the appropriate developmental level, in order for children to develop specific skill competency and mastery (Dockett & Fleer, 2003; MacNaughton & Williams, 2008). Within such an approach, the role of the teacher is generally to convey sets of rules or procedures, or to transmit an activity which can then be reproduced by children as a competent skill (MacNaughton & Williams, 2008). Teacher-led and structured activities are generally associated with teaching and learning of PAP activities such as soccer, and skills such as star jumps, usually with the teacher modelling movements. However, New Zealand teachers have continued to transition to a sociocultural perspective of teaching and learning in the last 20 years, where interactions between peers and adults have become the basis for constructing new knowledge and understanding (Dockett & Fleer, 2003). Berk (2006) describes sociocultural theory:

> It focuses on how culture – the values, beliefs, customs, and skills of a social group – is transmitted to the next generation. According to Vygotsky, social interaction – in particular, cooperative dialogues between children and more knowledgeable members of society – is necessary for children to acquire the ways of thinking and behaving that make up a community’s culture. (p. 25)

Given the continuing prevalence of developmental theory worldwide and New Zealand’s shifting discourse of early learning towards sociocultural theories, it is reasonable to expect a disconnect between what researchers and scholars advocate for teachers’ practices in PAP internationally, in comparison to New Zealand. Here, Piagetian developmental theory in early childhood education (for example, child-centredness) has been relativised to the past in
favour of sociocultural perspectives (Fleer, 2013). However, teachers in New Zealand are likely to continue to draw on multiple theories and understandings in their decision making as they re-evaluate prior knowledge and consider their usefulness in contemporary terms (Edwards 2005). In the next section, I define the PAP programme underpinned by Te Whāriki as a prerequisite to ground this current New Zealand study amidst international literature.

The New Zealand early childhood curriculum Te Whāriki (1996) provides a framework, rather than a prescriptive curriculum, for the development of early childhood practice which reflects the holistic nature of child development and learning (Ministry of Education, 1996; Oliver & McLachlan, 2006). Holistically, it aims to empower children and develop mana, which has been explained by Reedy (2013):

_Te Whāriki_ teaches us to respect ourselves and ultimately to respect others. It aims to ensure that children are empowered in every way possible, particularly in their development of their mana. The child is nurtured in the knowledge that they are loved and respected; that their physical, mental, spiritual, and emotional strength will build mana, influence, and control; that having mana is the enabling and empowering tool to controlling their own destiny. (p. 49)

_Te Whāriki_ (1996) has defined the curriculum as “the sum total of the experiences, activities and events, whether direct or indirect, which occur within an environment designed to foster children’s learning and development” (p. 10). Within the physical dimension of holistic development, knowledge, skills, and attitudes are promoted toward the body and health (Ministry of Education, 1996), for example, through developing an understanding of how the body works, physical skills, and dispositional learning such as curiosity and adventure.
(Ministry of Education, 1996; Reedy, 2013). Such knowledge, skills, and attitudes, when combined, form a child’s working theories (Ministry of Education, 1996). Working theories enhance the child’s ability to problem solve, make choices, and direct new learning (Ministry of Education, 1996). Learning outcomes can also be presented as learning dispositions (Carr, 2001; Ministry of Education, 1996) defined as, “being ready, willing and able to participate in various ways: a combination of inclination, sensitivity to occasion, and the relevant skill and knowledge (Carr, 2001, p.21). Five domains of learning dispositions, matched to the strands of Te Whāriki, have been presented by Carr as, “taking an interest, being involved, persisting with difficulty or uncertainty, communicating with others and taking responsibility” (p. 23).

Despite the holistic nature and concern for the whole child inherent within Te Whāriki (1996), Cullen (2003) has argued that it is “a complex document, which has been difficult to interpret as a guide to practice” (p.271), relative to a historical domain-based prescriptive programme. Nuttall (2013) agreed, stating that it was difficult to operationalise as it “demands simultaneous attention to every aspect of the learning environment” (p. 178). This concept was further explored by Oliver and McLachlan (2006) through their overview drawn from a New Zealand active movement study (Kolt et al., 2005). These authors identified the need for PAP in the curriculum to be supported by teachers who had clear, in-depth evidence-based knowledge to support their teaching practices. Oliver and McLachlan (2006) and other researchers (Broström, 2013; Cullen 2003; Fleer, 2013; Hedges, 2013) have argued that Te Whāriki is a descriptive rather than prescriptive (syllabus based) document and, “may therefore provide inadequate support for those teachers who may have little knowledge or confidence in teaching physical skills” (Oliver & McLachlan, 2006, p. 17). Siraj-Blatchford
and Sylva (2004) and others have argued that teachers must encompass the planning, support, and development of children’s unique identities as empowered learners within a broad and balanced curriculum (Hedges, 2003; Oliver & McLachlan, 2006; McNaughton, 2002; Veale, 2006).

In summary, this current study which explores the nature of PAP in New Zealand early childhood centres is timely, given the spotlight on the importance of PAP in the curriculum. PAP programmes in early childhood settings can aid in overcoming environmental factors that constrain children’s PAP opportunities (Bilton, 2010; Dyment & Coleman, 2012; Lucas & Schofield, 2010; Okely et al., 2009). Whether viewed through a developmentalist, domain-driven or sociocultural perspective, there is support for children worldwide to be exposed to the true richness of the curriculum which includes PAP (United Nations, 1989). In order to provide a context for this New Zealand study, it was necessary to identify the differentiation between theories of teaching and learning relevant to international studies and those of New Zealand. In this section, I have described the intent of Te Whāriki (Ministry of Education, 1996) in supporting a child’s holistic development and mana, where knowledge, skills, and attitudes combine to form children’s working theories. These, alongside learning dispositions form the learning outcomes of the curriculum framework (Ministry of Education, 1996). While Te Whāriki as a descriptive rather than prescriptive curriculum facilitates a holistic approach to child development and learning, it has been argued that it offers little guidance and support for teachers who lack knowledge and skills in supporting such a broad curriculum (Cullen, 2003; Nuttall, 2013; Oliver & McLachlan, 2006). This was found to be particularly evident in relation to teachers who lacked skills and confidence in teaching.
physical skills (Oliver & McLachlan, 2006). In the next section, I discuss quality PAP and its relationship to Te Whāriki’s holistic outcomes.

**Quality PAP**

The United Nations Convention on the Rights of the Child (UNCROC), of which New Zealand is a signatory, stated that the education of a child includes, “the development of the child’s personality, talents and mental and physical abilities to their fullest potential” (United Nations, 1989, Article 29). UNCROC challenges teachers to assess the quality of their provision of the curriculum from the perspective of the child, and I explain how this was evidenced in one New Zealand study (Greenfield, 2004). I discuss the provision of a quality PAP programme which supports the development of mana, learning dispositions and working theories, and provide evidence of structured and unstructured PAP opportunities being utilised within the PAP programme in New Zealand early childhood centres (Hussain, 2011; Mawson, 2011). I highlight the learning outcomes that ensued from PAP games which were both mediated and non-mediated by teachers. I discuss and describe how this evidence supports structured and unstructured PAP opportunities where children’s mana and right to choose is supported and can offer valued learning outcomes to children (Hussain, 2011; Mawson, 2011).

Understanding the perspective of the child in their PAP provision was the aim of one New Zealand ethnographic study which explored children’s perceptions in outdoor play (Greenfield, 2004). Through the use of photography, these five (4-year-old) children attending one centre documented and articulated happy, special, quiet, challenging, exciting,
and scary places outside. The swings, zoom slide, bikes, and bike track featured prominently as elements that the children appreciated for their speed, excitement, risk, challenge, and uncertainty (Greenfield, 2004). Furthermore, the children contributed their ideas about areas in the environment and resource provisions which could be enhanced, and they suggested such additions as a water feature “like an elephant’s trunk” and more bikes (Greenfield, 2004, p. 4). Of significance in this study are the author’s conclusions surrounding involving children in decision making, and recognising their voices as valued contributions. In particular, Greenfield stated, “we do need to reflect on our values, our images of the child, on what is important for young children to experience to grow up as caring citizens, caring for the environment and for each other” (p. 5). These ideals resonate with those already mentioned priorities of UNCROC in assessing the curriculum from the perspective of the child (United Nations, 1989). I now discuss other ways teachers provide PAP experiences within the curriculum both nationally and internationally.

Within the curriculum, teachers consistently provide movement encounters within their settings through the provision of resources and equipment. However, many international studies have argued provision alone does not ensure all children will participate in PAP (Okely et al., 2009; Sevimli-Celik, Kirazci, & Ince, 2011; Temple, Naylor, Rhodes, & Higgins, 2009; Tucker, 2008; Vazou et al., 2016; Venetsanou & Kambas, 2010). Several New Zealand studies posit that intentional teaching is required to provide engaging programmes, integrated peer learning, and shared collaborative learning through rich teacher-child interactions (Mitchell, Wylie & Carr, 2008; Oliver & McLachlan, 2006). Mitchell, et al.’s (2008) report to the Ministry of Education included intentional teaching and the provision of a complex curriculum as conditions that constituted good quality early childhood education. They defined intentional teaching as, “settings that provide opportunities for
‘sustained shared thinking’, rich teacher-child interactions, engaging programmes, peers learning together, and assessments with valued outcomes in mind” (Mitchell et al., 2008, p. 7). Intentional teaching embodies sociocultural pedagogical practices where teachers are able to recognise, interpret, and respond to children’s PAP experiences (Hedges, Cullen & Jordan, 2011). Such findings point to collaboration as offering children additional scope to develop knowledge, skills, and attitudes surrounding physical activity in contrast to providing resources and equipment alone (Oliver & McLachlan, 2006).

Aligned with the concept of intentional teaching, Soutar (2000) expanded on the theme of making time for learning, for observing and valuing children’s knowledge and aspirations, claiming that “it conveys to children that their mana is heard, seen and felt by adults and peers. It also means that adults are able to guide meaningful learning situations for children” (p. 8). International and New Zealand studies have argued teachers need to be highly skilled in sustaining children’s investigations and offering challenge and support in both the indoor and outdoor environment (Oliver & McLachlan, 2006; Mitchell et al., 2008; Vazou et al., 2016). This requires willingness on the part of teachers to develop and reflect on these skills in practice, a concept with wide international support (Derscheid, Umoren, Kim, Henry & Zittel, 2010; Gagen & Getchell, 2006; Helm & Boos, 1996; Herskind, 2010; Ignico, 1991).

Movement programmes and games are facets of the PAP programme which can be utilised to extend children’s skills and inject activity periods into the day, supported by both international (Hui-Tzu Wang, 2004; Vazou, Mantis, Luze & Krogh, 2016; Zachopoulou et al., 2006), and national studies (Calder, 2015; Hussain, 2011). A within-subject design, US feasibility study conducted in one early childhood centre catering to 3- to 5-year old children,
examined the effect of a 12-week structured physical activity intervention. The style of activities included in the intervention were of the nature of dance and freeze games, hunting and finding friends, and musical chairs. Vazou et al. (2016) concluded that from an educational perspective, structured physical games, enacted within the curriculum, aided skill development, and cognitive and social engagement. This was due to the nature of the games which required continual communication, cognitive engagement, and interaction and collaboration with their peers and teacher. Indeed, McNaughton (2002) argued that the curriculum must encompass the familiar while being wide enough to unlock the potential of the unfamiliar, where new interests can develop. Some studies point to creative dance and music and movement programmes to provide this scope (Hui-Tzu Wang, 2004; Zachopoulou et al., 2006). One such programme, Jump Jam (Kidz Aerobix, 2016) has become part of the PAP programme in early childhood, primary, and secondary schools in New Zealand. Powell and Fitzpatrick’s (2015) study in one New Zealand primary school attested that such programmes were “marketed to schools on the basis that it contains everything you need to teach and facilitate this fitness programme” (p. 464). In a report to the New Zealand Canterbury District Health Board, Calder (2015) indicated a 15% increase in the uptake of this Jump Jam programme within the 86% of early childhood centres participating in the WAVE (Well-being and Vitality in Education) programme. Such studies suggest the uptake of structured active movement programmes in the education sector, both nationally and internationally, are useful in injecting activity and physical skill development into a child’s day as part of the curriculum.

Interactive games such as chase are also an integral part of PAP in early childhood education (Hussain, 2011). One New Zealand study explored the complex thinking involved in games of chase using an emergent design-based, self-study methodology. Hussain (2011) took on a
multi-faceted role (for example, as leader, co-play partner, and follower) in games of chase with 3 and 4-year-old children over a 14-week period, in a full day centre licensed for 32 children. The final report was presented to SPARC (Sport and Recreation New Zealand, later re-named as Sport NZ in 2012). The purpose was to encourage teachers to use complex thinking to expand their teaching strategies and children’s learning in their own settings. Hussain’s research described three phenomena including: teaching, activities related to games of chase in the centre, and how children learnt while engaged in games of chase. Hussain explained how structured activity with groups of children who chose to participate transitioned to the emergence of new co-created games as learning developed:

For children to successfully play a game and enjoy it, players need to know how to play a particular game and also know that everyone is playing by the same rules. A teacher can help children to develop shared knowledge of various games by allowing children to experience different games. The need for shared knowledge of a game does not necessarily preclude the possibility of negotiating changes to the rules as the game unfolds... to the co-creation of a new game (Hussain, 2011, p. 78).

The conclusions drawn from the study highlight that games enacted by both teachers and children enabled them to deeply explore facets within the game. Both the teachers’ and children’s interests were valued while knowledge was co-constructed (Hussain, 2011). In addition, while following children’s interests, new ideas and actions were generated. Children were able to take on leadership roles and direct games of chase through their negotiation of rules. Such evidence points to the use of structured games as offering significant learning outcomes for children (Hussain, 2011).
Similarly, another New Zealand study sought to understand children’s leadership strategies in collaborative outdoor play, but in contrast to Hussain’s (2011) study where teachers were involved in the activity, Mawson (2011) explored non-adult-mediated relationships. In this interpretivist study where socially meaningful action was revealed through detailed observations, data was gathered from twenty five 3 and 4-year-old children at one centre over a 5-month period. Mawson (2011) concluded that the majority of mixed gender play occurred in the outdoors where a consistent theme was games of chase. The author established that children’s leadership skills emerged as they grappled with the complexity of managing a cohesive group and maintaining the theme of the play. These studies argue that PAP can enhance mixed gender play, leadership, and group skills (Hussain, 2011; Mawson, 2011). In addition, they depict the amalgamation of knowledge, skills, and attitudes where mana is developed through quality PAP and leadership opportunities, supporting important ways of learning within the curriculum (Hussain, 2011; Mawson, 2011).

In this section I have discussed the notion of quality PAP which many international studies argue requires more than the provision of PAP resources and equipment in the environment (Okely et al., 2009; Sevimli-Celik et al., 2011; Temple et al., 2009; Tucker, 2008; Vazou et al., 2016; Venetsanou & Kambas, 2010). Such limited scope does not ensure children will experience quality learning outcomes. Rather, shared collaborative learning where teachers recognise, interpret, and respond to children’s interests and goals (Hedges & Cooper, 2016; Hedges et al., 2011) facilitates a quality PAP programme from the perspective of the child. Such intentional teaching (Mitchell et al., 2008) requires careful observation, listening, and valuing of children’s contributions (Greenfield, 2004; Soutar, 2000). Both international and New Zealand studies have established that teachers need to be highly skilled to sustain children’s learning endeavours (Mitchell et al., 2008; Oliver & McLachlan, 2006; Vazou et
Assessment and Planning

Assessment and planning are powerful factors in providing quality learning opportunities within the PAP programme (Ministry of Education, 2007). Assessments come in a range of formats including anecdotes, narratives, parent’s voice, photographs, videos, and time sampling (White, 2009). However, the most common form of assessment utilised within the New Zealand early childhood environment since the introduction of Te Whāriki (1996) and reinforced through the Ministry of Education publication of Kei Tua o te Pae: Early Childhood Exemplars (Ministry of Education, 2004, 2007, 2009) are learning stories based on the work of Margaret Carr (2001). In this section, I discuss how the resource Kei Tua o te Pae was positioned to improve teachers’ planning and assessment practices (Ministry of

In 2004, 2007, and 2009 the Ministry of Education published a series of books *Kei Tua o te Pae: Assessment for Learning: Early Childhood Exemplars* developed from the framework and philosophy of *Te Whāriki* (Ministry of Education, 1996). They encouraged teachers to consider how their assessments were not simply to describe learning but to construct, enhance, and foster it through “diverse learning pathways” (Ministry of Education, 2004, p. 3). In addition, the exemplars were designed to increase teachers’ assessment literacy, whereby learning was made visible and parents and children could engage in sharing learning goals and progress (Cameron, 2014; Ministry of Education, 2004; Perkins, 2013). One New Zealand ethnographic study carried out by Davis (2006) sought to answer the question: How do teachers use narrative assessment to make decisions about the programme provided for the children they work with? Data collected from this single mixed-age early childhood centre included group and individual teacher interviews, observations of teachers, and material related to planning. Teachers were allocated up to five hours non-contact time per week with an additional two hours for fortnightly staff planning meetings. The significant finding was the teachers’ preferences for informal, undocumented assessment where teachers often used the information they carried around in their heads to inform planning and decisions as they worked. While one teacher in Davis’s study recognised the importance of observing, interpreting, and responding to children’s learning, time constraints and a busy centre environment were barriers to documenting or revisiting planning. She explained, “You might do ‘what next’ but sometimes you don’t get round to documenting what actually happened next, you’re busy” (Davis, 2006, p. 103). Of the several hundred documented examples analysed in Davis’ study, only four learning stories contained the essential elements of
interpretation, analysis, and planning. Such findings were supported by the Education Review Office reports (Education Review Office, 2007, 2013) which found the quality of assessment practices were variable across the sector. These reports indicate that teachers continued to grapple with the three basic steps of notice, recognise, and respond. The Education Review Office report evaluated priorities for children’s learning in 387 early childhood services in 2012, and found that 24% demonstrated less effective assessment practices, and stated:

In services with less effective practice, assessment was more of a record of children’s participation in activities and did not include any analysis of, or next steps for learning. Consequently, the information shared with parents was not helping them to see continuity in their child’s learning over time. (Education Review Office, 2013, p. 17)

Such critical evaluations suggest many in the early childhood sector may not be using assessment practices to drive the curriculum toward improved learning outcomes for children. Through this current study in five early childhood centres, I intend to add to these findings, as I answer the research question, how is the physical education curriculum planned and implemented? I aim to draw conclusions on how teachers’ assessment practices are used to inform and drive the PAP programme.

*Kei Tua o te Pae* (Ministry of Education 2004, 2007, 2009) provides guidance for effective pedagogy whereby children are involved in setting and assessing their own goals. These links between children setting learning goals and self-assessment have been exhibited within the exemplars to guide and inspire teachers’ assessment practices. For example, in one PAP learning story from the exemplars, “Sabine Designs a Swing”, it stated that “Sabine was very
clear about what she wanted. She experimented and eliminated what she did not want until the outcome matched her idea. She was very much in control” (Ministry of Education, 2007, p. 20). The following is an unpacking of what this assessment provides when viewed through an exploration lens. Attention is drawn to the knowledge, skills, and attitudes developed as learning dispositions and working theories within the analysis and interpretation of the learning story; for example, “this exemplar documents a number of strategies for active exploration. The project takes two days, with Sabine starting by sketching a plan. The problem solving involves a considerable amount of measurement, plus trial and error”. (Ministry of Education, 2007, p. 21). The learning dispositions Sabine developed included expressing an idea, taking responsibility, and persistence, while developing her working theories surrounding designing and building a swing to meet her purpose. Such exemplars throughout Kei Tua o te Pae provide teachers with a context in which PAP facilitates dispositions, working theories, and mana, leading to more complex future learning as valued outcomes of Te Whāriki (Ministry of Education, 1996).

In this section I discussed assessment and planning in a New Zealand context, where it has been argued that improved assessment practices would help teachers to deliver the curriculum where PAP featured strongly. Quality assessment and planning practices are required to drive and enhance curriculum toward improved learning outcomes for children (Ministry of Education, 1996). Since Te Whāriki was introduced, the most common form of assessment in early childhood education has been learning stories, where support has been provided through the Kei Tua o te Pae exemplars (Ministry of Education, 2004, 2007, 2009). While this support was designed to improve teachers’ practices in documenting the continuity in children’s learning, evidence suggests the quality of such assessment and planning is variable.
within the sector (Blaiklock, 2008; Davis, 2006; Education Review Office, 2007, 2013; White, 2009). Less effective practices provide a narrow focus on children’s immediate engagement with an activity, lacking a well-considered analysis and response toward next steps in learning to build complexity (Education Review Office, 2007). In this study, I aim to develop further understanding of the sub-question: How is the physical education curriculum planned and implemented? as I explore the nature of PAP in the five city-based early childhood centres in my study. It is pertinent to move the discussion to the teachers whose role it is to facilitate PAP as part of the curriculum.

The Teachers’ Role in PAP

Having already discussed the broad approaches to early childhood education in New Zealand and internationally earlier in this chapter, in this section I discuss how these approaches have continued to shape teachers’ beliefs, attitudes, and theories in New Zealand (Broström, 2013; Carr, 2005; Foote, Smith & Ellis, 2004). This is important because I consider teachers’ fundamental values and their understanding of how children learn influence their decisions and approaches to play. Therefore, based on their implicit theories, teachers will make decisions about the range of activities available, their structured or unstructured delivery, and their role as participant in the PAP programme (Brown et al., 2009; McLeod, 2002; Nuttall, 2013).

The dominant perspective on learning that emerged in early childhood education in New Zealand at the end of the 20th century can be characterised as sociocultural (Hedges and Cullen, 2005). Within such a view, the role of the teacher in quality curriculum is believed to
encompass principles of co-construction and joint attention whereby teachers and children work as a team to develop shared meanings (Claxton & Carr, 2004; Maynard, 2007; Peters & Davis, 2011; Siraj-Blatchford & Sylva, 2004; Stephen, 2010; Walsh et al., 2006). In this vein, Hedges and Cullen (2005) stated, “sociocultural educational practice emphasises teaching as an active, complex, and contextualised process” (p. 67). However, theory is never applied in a vacuum and some New Zealand teachers have taught through the rise and fall of several teaching and learning theories, and likely continue to draw on multiple theories (Broström, 2013; Carr, 2005; Foote et al., 2004). Therefore, since the introduction of Te Whāriki in the 1990s, it has not necessarily followed that teachers’ practices have caught up to these teaching and learning principles.

There are several New Zealand studies positing that early childhood teachers do not share the same beliefs, attitudes, and theories (Alvestad, Duncan & Berge, 2009; Foote et al., 2004; Hedges & Cullen, 2005; Jordan, 2008; Mitchell, 2007; Nuttall, 2003). One such study is Foote et al.’s (2004) exploration of the impact of teacher’s beliefs on literacy experiences in a play-based programme. In this ethnographic study eight early childhood teachers from four different centres were interviewed. Each teacher held a degree or diploma in early childhood education, worked within the framework of Te Whāriki (1996), and participated in PD in relation to literacy learning. The findings highlighted the differences in pedagogies amongst teachers’, as the authors stated, “amongst this seemingly homogenous group of teachers there were different understandings about appropriate pedagogical approaches to support literacy learning. The tenor of some of the teacher’s responses changed from a play-based approach to a more structured and skills-based focus” (Foote et al., 2004, p. 140). Therefore, Foote et al. (2004) concluded that underlying beliefs, rather than professional knowledge (which had
been recently advanced through PD), impacted the practices of early childhood teachers. This study highlighted that beliefs, theories, and attitudes varied among New Zealand teachers. This resulted in teachers using both structured (teacher-led) and unstructured (play-based) teaching practices to support curriculum delivery.

Seven years after Foote et al.’s (2004) study, a further ethnographic study examined New Zealand teachers’ beliefs and values surrounding mathematics; this revealed contrasting results (Sherley, 2011). In understanding New Zealand kindergarten teachers’ beliefs and practices toward mathematics, Sherley (2011) conducted what was described as a collective evaluative case study in which data were collected from fourteen teachers across five kindergarten settings over a 2-year period. Te Whāriki (Ministry of Education, 1996) framed each of the kindergarten’s teaching and learning programmes. The findings revealed that teachers had developed children’s interests through learning experiences, which led to the development of positive dispositions and mathematical learning. These kindergarten teachers saw their role as guiding, supporting, and extending learning. They recognised their transition from a developmental, school readiness approach (through structured activities), to one that extended on children’s learning interests though unstructured activity. In contrast to the findings of Foote et al. (2004), who found teachers existing beliefs continued to override new learning through PD, these teachers commented that PD, professional discussions, and reflection with colleagues were instrumental to their change process where teaching practices were expanded. These studies have revealed that teachers’ beliefs and values underpin teachers’ practices in delivering curriculum through structured or unstructured means. So, how does Te Whāriki (Ministry of Education, 1996) act as a guide to practice?
There are some who have suggested that *Te Whāriki* (Ministry of Education, 1996) offers nothing explicit in the relationship between aims and content, and is therefore used by teachers to reinforce traditional practices (which may tend toward more child-centred or more teacher-centred practice) rather than current sociocultural practices (Alvestad et al., 2009; Broström, 2013; McLeod, 2002). Such an example of child-centred practice was evidenced in McLeod’s (2002) New Zealand findings when being “on outside” involved teachers setting up equipment and maintaining the environment, while children chose activities with little engagement from the teacher. McLeod (2002) critiqued this outdated approach being used in conjunction with *Te Whāriki* (Ministry of Education, 1996) and concluded that, “in reality most staff members were rostered to ‘set up’ equipment and activities rather than to work with children on specifically planned programmes which had been informed by assessment” (p. 285). Each of these studies (Foote et al., 2004; McLeod, 2002; Sherley, 2011) have highlighted a range of beliefs being enacted through the teachers’ role in curriculum delivery. Within these studies the teachers’ use of *Te Whāriki* to guide practice was being interpreted in different ways, influenced by the teachers’ implicit theories. As Nuttall (2013) stated, “teachers’ negotiation of their curriculum enactment, including those practices they consider more or less appropriate in implementing socioculturally based curriculum, is itself part of the ‘weaving’ of life in the centre” (p. 179). Through my study, I aim to develop a further understanding of the teachers’ role in facilitating PAP guided by their implicit theories and underpinned by *Te Whāriki*, where I expect to draw conclusions surrounding teachers’ beliefs, values and practices. Next, I will position both structured and unstructured PAP activities as representations of quality curriculum grounded in the sociocultural context of *Te Whāriki*. 
In interpreting what we know from this chapter, it can be said that structured PAP, offered through such means as movement programmes and games (for example soccer), offer the benefit of intentional teaching (Hui-Tzu Wang, 2004; Hussain, 2011; Vazou et al., 2016; Zachopoulou et al., 2006). As previously discussed, intentional teaching provides opportunities for teacher-child interactions and engaging programmes and equates to quality curriculum delivery in New Zealand (Mitchell et al., 2008). New Zealand and international studies have suggested that structured PAP games and teacher initiated activities where children can choose to engage, and unstructured PAP where teachers engage with children’s interests to build complexity in learning, both offer valuable contributions to the PAP programme (Hussain, 2011; Mawson, 2011; Vazou et al., 2016). Structured and unstructured PAP opportunities provided in this context enhance learning opportunities for children to develop knowledge, skills and attitudes, learning dispositions, and working theories. Children’s mana is respected in the teachers’ provision of the PAP programme, when children have a choice to freely engage or not in any activity (Hussain, 2011; Ministry of Education, 1996), whether structured or unstructured. Te Whāriki (Ministry of Education, 1996) offers these words for teachers in supporting children’s mana: “empowerment is also a guide for practice. Play activities in early childhood education invite rather than compel participation. Adults have an important role in encouraging children to participate in a wide range of activities” (p. 40). In this section, I have discussed the teachers’ role in facilitating PAP, the influence of teachers’ beliefs and values, and the provision of the PAP programme through structured and unstructured activity. The discussion now turns to teacher participation in and through PAP, underpinned by teachers’ implicit theories in their role in quality curriculum delivery.
Teacher involvement is a controversial and complex issue amongst early childhood educators due to differing philosophies of teaching (Brown et al., 2009). International evidence suggest that teachers hold a belief that their involvement may inhibit children’s autonomy or interfere with the development of peer interactions and relationships (Harper & McCluskey, 2003; Kendrick, Hernandez-Reif, Hudson, Jeon, & Horton, 2012; Scarlett, Naudeau, Salonius-Pasternak, & Ponte, 2005). Fears that the teachers’ proximity and interest in play may limit children’s freedom and spontaneity underpins the non-participating teachers’ practices. This is a common view of teaching and learning where developmentally appropriate practice or child-centredness is strong, and does not reflect the intent of Te Whāriki (Ministry of Education, 1996). Other New Zealand and international studies support the teachers’ role as one that stimulates learning, with teachers taking a co-play position where power is shared and knowledge is co-constructed, reflecting sociocultural practices (Bilton, 2012; Frost, 2010; Greenfield, 2007; Kern & Wakeford, 2007; Nuttall, 2003; Scarlett et al., 2005). To illustrate this, one English study argued a teacher’s focus should centre more on “doing with” rather than “doing to” children (Bilton, 2012, p. 24). Key to the findings was the need for teachers to pay careful attention to their interactions and conversations with children. In addition, Greenfield’s (2007) New Zealand ethnographic case study found that children interviewed resoundingly wanted teachers to be more involved in their play. Such findings highlight that teachers should both look after and play with children.

International evidence has pointed to other advantages in the teacher as participant, for example, in increased participation (Cashmore & Jones, 2008; Suthers & Larkin, 1996), where children not only played for longer but were more engaged (Cashmore & Jones, 2008;
O'Connor & Temple, 2005). In addition, the teacher as participant sends an important message: that play is valued (Freshwater, Sherwood, & Mbugua, 2008). Teachers in Freshwater et al.’s (2008) Kenyan study were observed routinely participating in both teacher and child-initiated activities. Teachers’ active participation was seen to relay a message to children that their activities were worthwhile and worthy of adult attention (Freshwater et al., 2008). Such evidence can be considered in light of children’s learning outcomes prioritised in Te Whāriki (Ministry of Education, 996) where respect, mana, and empowerment can stem from teacher participation. The US authors of the Kenyan study drew a comparison with the American teachers’ non-participant role of watching children at play; they considered the Kenyan teachers as models of purposeful teaching. Teachers who regularly participate in physical activity demonstrate a commitment to a shared purpose and social learning (Freshwater et al., 2008). As demonstrated by both the New Zealand and Kenyan studies (Greenfield, 2007; Freshwater et al., 2008), teacher participation motivates and enhances children’s physical activity, often leading to increased participation from children. These findings illustrate the powerful impact teachers have in their role of participant (Cashmore & Jones, 2008; Freshwater et al., 2008; Greenfield, 2007; O'Connor & Temple, 2005). Teachers’ beliefs and values about their role in providing quality learning outcomes for children will determine under what circumstances they will participate in PAP (Brown et al., 2009).

In this section, I have discussed how teachers’ implicit values underpin the teachers’ role in delivering the PAP programme. I have discussed the complexity of the teachers’ role in supporting socially constructed knowledge where teachers and children work together, sharing a power relationship (Claxton & Carr, 2004; Siraj-Blatchford & Sylva, 2004). Given that many teachers in the New Zealand early childhood workforce have spanned both pre and
post *Te Whāriki* theories of teaching and learning, it follows that not all teachers will have transitioned to share the same beliefs and values (Alvestad et al., 2009; Foote, et al., 2004; Hedges & Cullen, 2005; Jordan, 2008). This is because when teachers’ deep-seated theories are mediated into new theoretical understandings, influences of the old theories remain (Bennett, Wood & Rogers, 1997; Fleer, 2013; Hedges, 2013; Hedges et al., 2011; McLeod, 2002; Stephen, 2010). As a result, teachers’ espoused theory, and theory in action, can become misaligned (Argyris & Schön, 1974). Evidence suggests that there are advantages to facilitating PAP through structured activities (Hui-Tzu Wang, 2004; Hussain, 2011; Vazou et al., 2016; Zachpoulou et al., 2006) and unstructured activities (Mawson, 2011), where teachers base their decisions on how their practices will support children’s learning and development within sociocultural teaching and learning principles. In addition, the role of the teacher as participant in PAP was discussed. Some international evidence argued the teachers’ proximity may limit children’s peer relationships and spontaneity (Haper & McCluskey, 2003; Kendrick et al., 2012; Scarlett et al., 2005). However, there was both international and New Zealand evidence where the teacher as participant in PAP supported sociocultural teaching and learning practices resulting in positive learning outcomes for children (Bilton; 2012; Frost, 2010; Greenfield, 2007; Hussain, 2011; Kern & Wakeford, 2007). In the next section, I will discuss how teachers’ motivation, knowledge, and risk anxiety influenced the PAP programme provision.

**Factors Which Impact on the Teachers’ Role**

There are a number of factors that influence the teachers’ role in the provision of the PAP programme. Evidence from international and New Zealand studies suggests that teacher motivation impacts on the provision of physical play (Maynard, Waters & Clements, 2013;
Mikkelsen, 2011; Stephenson, 2002). Not all teachers enjoy being outdoors in inclement weather or participating in robust outdoor activity; alternatively, others enjoy the learning opportunities this provides (Lu & Montague, 2015; Martin, 2011; Maynard et al., 2013; Stephenson, 2002; Wilke, Opdenakker, Kremers & Gubbels, 2013). It follows that teacher motivation, attitudes, and preferences toward being outdoors will affect the duration and range of experiences children will have in their PAP programmes outside (Martin, 2011; Maynard et al., 2013; Mikkelsen, 2011; Stephenson, 2002). This argument was developed in two New Zealand studies.

Greenfield (2007) and Stephenson (2003) explored the powerful influence teacher motivation and attitudes have on the PAP programme experienced by children in New Zealand (Greenfield, 2007; Stephenson, 2003). Indeed, one study argued that teachers’ attitudes and motivation levels were more significant for PAP programmes than equipment or resourcing (Stephenson, 2003). Stephenson’s Master’s thesis, completed in 1998, studied outdoor play in a single setting catering for 25 children aged 0 to 5 years. An open-ended ethnographic approach was used to gather information over a 4-month period. Stephenson (2003) identified children hunger for adventurous and risky activities. She argued that a teacher’s motivation towards a liberal but sensitive approach to supervision allowed children to satisfy their need for physical challenge. In addition, Greenfield’s (2010) qualitative study collected data from 46 teachers within 15 early childhood centres, utilising an electronic questionnaire to develop an understanding of what made an optimal outdoor learning environment. The conclusions pointed to the teachers’ positive attitude and sense of enjoyment in PAP as enhancing relationships where PAP interests were shared. An enjoyment of being outdoors is a motivating factor which Ridgway and Hammer (2005) argued is underestimated in
supporting learning. Given that a lack of motivation can be commensurate with a lack of knowledge and skills in supporting PAP (Martin, 2011), I will discuss this forthwith.

Several international studies suggest teachers are faced with a lack of ideas, motivation, competency, and confidence in promoting physical activity which is greatly influenced by the level of pre-service and in-service training available (Helm & Boos, 1996; Louie & Chan, 2003; Martyniuk & Tucker, 2014; Suthers & Larkin, 1996; Vives-Rodriguez, 2005). Also lacking is the educational component that transfers movement encounters into intentional learning outcomes (Gagen & Getchell, 2006; Helm & Boos, 1996; Martyniuk & Tucker, 2014; O’Connor & Temple, 2005; Vives-Rodriguez, 2005). Early childhood teachers’ desire to increase their knowledge and skills in facilitating PAP opportunities was evidenced in a Canadian cross-sectional design study which surveyed 1,113 students enrolled in the early childhood diploma programme across 20 colleges. The purpose of the study was to identify student teachers’ physical activity related knowledge from their diploma programme, their self-efficacy, and their own physical activity behaviours. The findings established that 802 of the student teachers (72%) reported having no physical activity or physical education specific courses within their diploma programme, with only 174 (15%) having completed a course such as music and movement. Within the mandatory diploma course structure, only 66% of student teachers reported that physical activity was discussed. The findings concluded that such a gap in knowledge for these beginning teachers could be a barrier to providing a diverse and rich PAP programme (Martyniuk & Tucker, 2014).

While the authors of this Canadian study concluded that student teachers entering the workforce require activity related knowledge, skills, and training to champion physical
activity within their childcare programmes, the same could be suggested of New Zealand. One New Zealand case study has evaluated an in-service training programme in three early childhood centres. Dickinson, Asiasiga, Adams and Gregory (2010) found that after ongoing training, teachers became more confident in facilitating fundamental movement skills and a variety of PAP activities were being offered on a daily basis as an integral part of the programme as a result. Moreover, both New Zealand and US studies have argued that higher levels of teacher training have resulted in higher centre levels of physical activity (Bower et al., 2008; Dickenson et al., 2010; Dowda et al., 2009). Evidence points to teachers’ self-efficacy in delivering a quality PAP programme as dependent on quality pre-service and in-service training (Kolt et al., 2005; Martyniuk & Tucker, 2014; Oliver & McLachlan, 2006; Vives-Rodriguez, 2005; Wolfenden et al., 2011). As Breslin, Morton & Rudisill (2008) argued, “it is at the teachers’ level where policy meets practice. If the teacher does not understand or value the curricular outcomes, or does not have the resources, training or confidence to implement it, then nothing will change” (p. 430). This study which aims to explore: What is the nature of PAP in city-based early childhood centres in New Zealand? will provide an understanding of: What are teachers’ aspirations for PAP and how are they able to realise these? as a sub-question of this study. I will provide a New Zealand perspective on teachers’ PD goals and the availability of such support. Balancing the need to care, protect, and challenge children can be problematic to the teachers’ role in facilitating the PAP programme, and is discussed next.

Risk anxiety can result when teachers are challenged in their capacity to care for and protect children while encouraging challenge and risk (Wyver et al., 2010). In order to alleviate risk anxiety, teachers’ beliefs and values can become enacted as rules in their duty of care for children (Thompson, 2007). Rules are utilised by teachers to restrict or enable children’s
exploration and learning opportunities. Such findings were evidenced in Thompson’s (2007) UK ethnographic study based on three junior and infant schools (4-11 year old students) where data was gathered utilising both adult and child observations and interviews. The children identified an inordinate number of rules which impacted on their freedom and spontaneity. Thompson concluded that despite adults being well intentioned in trying to shield children from injury and to promote good quality peer interactions, children were instead ring-fenced by rules. Both Thomson (2007) and Wyver et al.’s (2010) international studies discerned that children were curtailed in their outdoor play through teacher risk anxiety. Wyver et al. (2010) added an insight into what they considered was a problem of excess safety in early childhood. In drawing on research from Australia, the UK and the US, these authors provided examples of how adults had enacted a “better safe than sorry” mantra while catering to a worst case scenario of adverse outcomes. The authors offer a contrast with other Scandinavian countries where the benefits of challenge and risk were widely acknowledged for “toughening” children. One Norwegian study (Sandseter, 2007) acknowledged that the kindergarten teachers were aware of the risk of children playing with dangerous tools such as knives and axes, climbing high trees, and sledding at high speeds, but these were valued kinds of play and common in most Norwegian childcare centres. Wyver et al. (2010) argued that when viewed in the context of serious injuries internationally, playgrounds were relatively safe places. They concluded that the contemporary obsession with child safety leaves teachers who allow children to engage in high risk activity to be considered as negligent in their duty of care.

Stephenson’s New Zealand study (2003) also considered the difficulty for teachers in distinguishing an acceptable level of risk (as opposed to hazard) in order to meet the need for challenge and safety simultaneously. She summed up this weighty dilemma stating, “the
consequences of physical hazard are so dire, they frequently overshadow the need to provide children with stimulating and challenging physical play outdoors... in making a centre hazard free, inadvertently it will also be made challenge free” (Stephenson, 2003, p. 40). The choices teachers make surrounding acceptable levels of risk will be influenced by their beliefs and values and, consequently, whether these will be tipped toward the possibility of injury and defeat or adventure and bravery (Stephenson, 2003). These international and New Zealand findings have suggested that the possibility of children acquiring positive learning dispositions through challenge and risk is in the hands of teachers overcoming their risk anxieties (Stephenson, 2003; Wyver et al., 2010).

In this section, I have discussed teachers’ motivation, knowledge, and risk anxiety toward outdoor PAP and how these factors influence their role in providing PAP. Evidence from overseas and New Zealand have suggested factors such as weather, the attitude of teachers, and the teachers’ approach to outdoor supervision will become determining elements in how children’s PAP interests will be met (Greenfield, 2010; Martin, 2011; Stephenson, 2003). Such factors are also underpinned by teachers’ self-efficacy in supporting PAP outdoors, where a lack of ideas or knowledge in how to enhance PAP can result in lack-lustre programmes and unmotivated teachers (Martynuik & Tucker, 2014; Oliver & McLachlan, 2006; Vives Rodriguez, 2005). While Stephenson (2003) argued that children in New Zealand early childhood centres yearn to challenge themselves through risk and adventure, it required teachers to be willing to support these opportunities. Risk anxiety prompts differing responses in teachers (Sandseter, 2007; Stephenson, 2003; Wyver, 2010), where rules reflecting teachers’ beliefs and values toward children’s care and education are implemented. However, both Wyver et al. (2010) and Stephenson (2003) provide international and New Zealand perspectives illustrating the need for teachers to overcome risk anxiety. In carefully
considering the balance between safety and learning, children’s positive learning outcomes such as courage can unfold (Stephenson, 2003). In this exploration of the nature of PAP in five early childhood centres, I intend to provide more depth of understanding through my research sub-question: What are teachers’ beliefs and values surrounding their role in facilitating PAP?

**Structural Factors that Impact the PAP Programme**

The final factor impacting the delivery of quality PAP is the influence of structural elements. As teaching in an early childhood centre is both an individual and collective activity, I explore the impact of organisational culture on pedagogical beliefs and practices. I then focus on routines, policies, and regulations as external factors to teachers, which impact their delivery of the PAP programme.

During the 1980s and 1990s the compulsory education sector (primary, intermediate and secondary schooling) began using the concept of organisational culture to view schools as a whole entity. School culture is defined by Schein (1985) as:

> Observed behavioural regularities, including language and rituals; norms that evolve in working groups; dominant values espoused by an organisation; philosophy that guides an organisation’s policy; rules of the game for getting along in an organisation; and the feeling or climate conveyed in an organisation. (p. 96)

Several studies have explored organisational culture in early childhood education (Gibbons, 2005; Hatherly, 1997; Kiley & Jensen, 2003; Lubeck, Jessup, deVries, & Post, 2001; Lynch & Hanson, 2004; McLeod, 2002; Reynolds, 2007). In one New Zealand multisite case study
utilising grounded theory methods, McLeod (2002) conducted interviews in ten early childhood centres. In all but one of these centres, McLeod found that the philosophy of the centre stemmed from the beliefs and values of the founder (centre owner), and became a taken for granted assumption. Such assumptions were then projected by the teaching team as their own beliefs and values, and were transmitted through their teaching and learning practices. McLeod explained, “In most interviews, centre personnel were unaware that they revealed the beliefs of centre founders as they explained the philosophy of the centre in which they worked. These beliefs formed the organisational culture of the centre” (p. 308).

However, McLeod’s (2002) findings revealed that the founders’ beliefs were often misaligned with currently accepted theory reflected in the framework of *Te Whāriki* (1996). As individual teachers are drawn together into a collective in an early childhood environment, the influence that organisational culture exerts upon the beliefs and values of individual teachers will shape how they behave (Gibbons, 2005; Kilmann, 1989). Kilmann (1989) offered an explanation of this phenomenon, “It is likely that the pressure to conform to the centre culture may cause even qualified staff to ‘deny their own perceptions’ when confronted with the group’s norms of ‘objective’ reality” (p. 54). Institutional cultures include ingrained beliefs which are hard to change (McLeod, 2002; Mitchell, 2007; Taylor, 2011), requiring careful scrutiny to support positive learning outcomes for children aligned with *Te Whāriki* (Ministry of Education, 1996). McLeod (2002) discussed how this change process could occur:

> In already-established centres, reflection by all centre personnel should identify what image already exists and how it was arrived at. Consideration of what pedagogical practices would follow from the shared image of the child need to be embedded in the vision that shapes centre culture, structures and activities so that the child remains central to all planning, maintenance or change undertaken in centres. (p. 334)
Understanding the organisational culture of a centre provides knowledge surrounding how teachers work collaboratively (Thornton, 2006), share pedagogical beliefs (McLeod, 2002; Mitchell, 2007) and work toward the delivery of a quality PAP programme. Next, I consider early childhood centres’ routines, policies, and regulations which can positively or negatively impact a teacher in facilitating a quality PAP programme.

Many countries, including New Zealand, have attempted to understand how childcare policies, routines, and regulations influence the delivery of physically active play programmes (Cashmore & Jones, 2008; Chow & Humbert, 2011, 2014; Finn, Johanssen & Specker, 2002; Finn & Specker, 2000; Greenfield, 2007, 2010; Little & Sweller, 2014; Pate et al., 2004; Stephenson, 1998, 2003; Vanderloo et al., 2014; Vives-Rodriguez, 2005; Wilke et al., 2013). Stephenson (2002) provided a New Zealand perspective on aspects of the environment that influence PAP, but presented little data regarding policies. Routines were considered to offer fewer constraints on outdoor activities; however, occurrences of physical play indoors were uncommon. The finding that safety issues were more strenuously pursued inside (Stephenson, 2002) was supported by an Australian study in which teachers identified the indoor environment as unsuitable for physical activity (Cashmore & Jones, 2008). This was due in part to the policies which supported children’s safety (such as walking inside), and inhibited the use of the indoor environment for physical activity opportunities and games (such as those which included running) (Cashmore & Jones, 2008). Expanding on these findings of Stephenson (2002), a further New Zealand quantitative study considered children’s access to the outdoors, where routines and policies enabled or constrained children’s engagement with PAP outdoors. Lockie and Wright (2002) collected data from 200 early childhood centres in New Zealand by utilising a questionnaire to identify the number of centres which offered free access outside, and the average duration of time
available for children to go outside each day. Nearly two thirds of those centres catering to the over 2-year-old age group provided an average of 6h 30 m per day, with only 6.5% of the over two centres restricting access to the outdoors. Lockie and Wright (2002) identified several factors that made access to the outdoors easy or difficult within these 200 early childhood centres. “Easy” factors included flexibility in the programme, philosophy and beliefs, staff attitudes, rosters, shelter from weather, and routines that were flexible. In contrast, some features that made access difficult were structured and planned activities and where outdoor play was not a priority in the beliefs and philosophy of the centre (Lockie & Wright, 2002). These findings illustrate the power that routines and policies have in regard to the programme that children experience.

Several Australian studies have investigated the impact of regulations on the PAP programme (Coleman & Dyment, 2013; Dyment & Coleman, 2012; Fenech & Sumsion, 2007). Fenech and Sumsion’s (2007) Australian study utilised a Foucauldian lens to examine the power relations of regulations on early childhood teachers. This mixed-method study allowed a means to examine the impact of regulations on teachers’ practice, autonomy, and use of time (Fenech & Sumsion, 2007). They concluded that all but one of the 16 participants perceived regulations to be constraining. Notably, teachers referred to regulations as eroding their initiative, ability, professional wisdom, common sense, and time. In addition, Dyment and Coleman’s (2012) Australian qualitative study used observations and interviews to explore the actual and perceived roles of teachers in facilitating physical activity in four preschools. Their results indicated that teachers were restricted by the regulatory ratios which did not allow them to move away from a supervisory role to support extra activities (Coleman & Dyment, 2013; Dyment & Coleman, 2012). These results highlight regulations as powerful influencing factors impacting teachers’ provision of PAP in Australia.
In Australia, aspects of the regulations have been perceived as both a barrier and an enabler in the PAP programme (Fenich & Sumsion, 2007). In a positive vein, Fenich and Sumsion (2007) concluded that teachers actively aligned with regulations and their intent around qualification requirements. Teachers identified their use in limiting litigation through safety and welfare provisions to be an enabler, however, the constraining application of regulations frustrated teachers; for example, removing tree limbs to prevent children climbing trees. Additional barriers such as the loss of equipment due to regulatory changes (including restrictions on fixed playground equipment), and managing the broad age range of children in mixed age settings influenced financial structures and teachers morale (Fenich & Sumsion, 2007). International and New Zealand evidence suggests that regulations may conflict with teachers’ professional judgments in facilitating challenge, and the use of natural resources (such as tree climbing), in an early childhood environment (Davis, 2009; Duhn, 2012; Stephenson, 2003). In discussing the New Zealand regulations as a constraint, Stephenson (2003) stated, “safety regulations can make it very difficult for teachers to provide children with experiences that feel satisfyingly ‘risky’” (p. 35). A further Australian study used an online survey to gather information from centres on how regulations impacted their ability to offer physically challenging experiences to children. Of the 245 centre participants, 45% strongly agreed, or agreed that restrictions on the height of equipment and fall zones necessary to comply with the Australian regulatory requirements, limited their ability to support challenge and risk (Little & Sweller, 2014). Participants in Fenech and Sumsion’s (2007) study generated several strategies for shaping the power relations with regulatory bodies and to mitigate the constraints of regulations. These included articulating their stance and using complaint mechanisms, resisting unworkable interpretations of regulations, and working collectively to resist ambiguous regulatory constraints (Fenech & Sumsion, 2007).
While one study pointed to positive, enabling aspects of the regulations (Fenech & Sumsion, 2007), overall these findings reveal the regulations as a barrier to the PAP programme both in Australia and New Zealand, particularly in relation to height, risk taking and added restrictions on playground equipment (Davis, 2009; Duhn, 2012; Fenech & Sumsion, 2007; Little & Sweller, 2014; Stephenson, 2003).

In this section, I have discussed factors which impact on the PAP provision, beginning with a discussion on organisation culture in early childhood education. Several New Zealand studies have posited that teachers mould their beliefs and values to enact the organisational culture of an early childhood centre (Gibbons, 2005; Kilmann, 1989; McLeod, 2002). One study concluded that the organisational culture originated from the founder’s philosophy and was then passed down and sustained over time through the collective teaching team (McLeod, 2002). However, evidence pointed to a misalignment between some philosophies being enacted through the organisational culture, and teachers’ practices, which fell short in reflecting Te Whāriki’s curriculum framework (Gibbons, 2005; McLeod, 2002). Therefore, teachers must be critical in assessing how their beliefs and values, image of the child, and delivery of quality curriculum in their organisational culture are reflecting sociocultural teaching and learning practices (Gibbons, 2005; McLeod, 2002).

In addition, this section discussed how New Zealand early childhood policies, routines, and regulations influenced the PAP provision (Lockie & Wright, 2002; Stephenson, 2002, 2003). Routines and policies were found to enable or constrain PAP in the outdoor environment where flexible programmes, supervision policies, and routines could be positioned toward enabling children’s access to outdoor PAP (Lockie & Wright, 2002; Stephenson, 2002).
Therefore, routines and policies were found to be highly influential structural factors which impacted the PAP programme delivery. Regulations were also found to impact the delivery of PAP in Australia and New Zealand (Coleman & Dyment, 2013; Dyment & Coleman, 2012; Fenich & Sumsion, 2007; Stephenson, 2003) particularly in supporting challenge and risk taking opportunities (Little & Sweller, 2014; Stephenson, 2003). Regulations were found to conflict with teachers’ judgements in providing a quality PAP programme where children could fully engage with nature and risk taking in New Zealand (Duhn, 2012; Stephenson, 2003). Both Australian and New Zealand studies found height and additional restrictions on outdoor equipment through regulatory changes to be barriers to the delivery of the PAP programme (Coleman & Dyment, 2013; Dyment & Coleman, 2012; Fenich & Sumsion, 2007; Stephenson, 2003).

Conclusion

This literature review has discussed both New Zealand and international research surrounding six interrelated aspects of the nature of PAP in early childhood education. These were PAP in the curriculum, quality PAP, assessment and planning, the teachers’ role, factors which impacted on the teachers’ role in PAP, and structural factors that impact programme delivery. Given the interrelated nature of these aspects, discussed in this review, it became clear that exploring how the activity of PAP was supported and enacted in each early childhood centre would require a holistic conceptual framework. In this section, I discuss the conclusions drawn from this literature review, highlighting the ways this current study aims to support and expand the existing body of knowledge.
Promoting children’s health and well-being is of prime importance (World Health Organisation, 2000). It follows that early childhood PAP programmes have been spotlighted by many, both in New Zealand and internationally, as a means to overcome some of the environmental factors negatively impacting children’s PAP opportunities (Bilton, 2010; Dyment & Coleman, 2012; Lucas & Schofield, 2010; McClintic & Petty, 2015; Okely et al., 2009; Venetsanou & Kamias, 2010). Such strong international evidence, arguing that PAP opportunities can be supported within a well-facilitated early childhood environment, is representative of a range of differing perspectives on teaching and learning. As this is a New Zealand study where sociocultural perspectives of teaching and learning have been privileged since the introduction of *Te Whāriki* (Carr, 2001; Ministry of Education, 1996; Nuttall, 2003), it is not possible to draw the same inferences from studies overseas with respect to the situation in New Zealand. Yet, with the paucity of relevant New Zealand studies it was necessary to grapple with this issue. In addressing this in the review, I defined the PAP programme as part of the curriculum within the holistic nature of *Te Whāriki* (Ministry of Education, 1996). I described the valued learning outcomes for children expressed through *Te Whāriki* as learning dispositions, working theories, and mana (Ministry of Education, 1996; Reedy 2013). In this study, I will explore the research question: What is the nature of PAP in city-based early childhood centres in New Zealand? Through this question I aim to increase an understanding of PAP developed through this holistic curriculum.

The quality of a PAP programme should be viewed through the perspective of the child (United Nations, 1989). Due consideration should be given to quality in a sociocultural context, where children’s contributions toward improvements are valued (Greenfield, 2004). While many international studies have identified that the PAP programme is facilitated
through the environmental set-up and provision of resources, they argue this is not enough to constitute quality learning outcomes for children (Okely et al., 2009; Sevimli-Celik et al., 2011; Temple et al., 2009; Tucker, 2008; Vazou et al., 2016; Venetsanou & Kambas, 2010).

In New Zealand, intentional teaching requires noticing, recognising, and responding to children’s interests, enabling engaging programmes and shared collaborative learning toward the valued learning outcomes of *Te Whāriki* (Hedges et al., 2011; Ministry of Education, 1996; Mitchell et al., 2008; Oliver & McLachlan, 2006). Such practices, where teachers sustain, guide, and extend children’s exploration within PAP, have been facilitated through both structured and unstructured experiences in New Zealand (Hussain, 2011; Mawson, 2011). The uptake of structured movement programmes such as Jump Jam (Kidz Aerobix, 2016) has increased in one New Zealand region (Calder, 2015). Several international studies have posited that movement programmes and structured games can lead to children’s physical skill development, added activity periods, and social engagement (Hui-Tzu Wang, 2004; Vazou et al., 2016; Zachopoulou et al., 2006). Activities such as games of chase (mediated or non-mediated by teachers) offer children opportunities for shared collaborative learning, leadership, and group skills (Hussain 2011; Mawson, 2011). New Zealand evidence suggests both structured and unstructured activity can provide quality PAP learning opportunities (Hussain, 2011; Mawson, 2011). Children’s mana is respected when children can freely choose to engage or lead structured or unstructured activity (Ministry of Education, 1996). Through this current study, I will explore the nature of PAP in five early childhood centres. I intend to develop an understanding of how teachers strive toward providing a quality PAP programme underpinned by *Te Whāriki* (Ministry of Education, 1996) through the research sub-question: What are teachers’ aspirations for PAP and how are they able to realise these? Through a further sub-question: How do teachers manage the learning environment to support emerging interests in the physical domain? I will develop an
understanding of the use of structured and unstructured activity opportunities being used to support the PAP programme and subsequently the choices available to children. In addition, this question will enable me to consider whether children had agency in the choice of resources available in the PAP programme, and autonomy in how they chose to engage with these.

Assessment and planning, while powerful factors in driving quality curriculum (Ministry of Education, 2007) were identified in the literature as often left at the bottom of the hierarchy of a busy teacher’s role (Davis, 2006; Education Review Office, 2007, 2013). Less effective planning practices were illustrated as those which recorded a child’s participation in an activity rather than an analysis and interpretation leading to more complex learning (Education Review Office, 2007, 2013). The Kei Tua o te Pae (Ministry of Education, 2004, 2007, 2009) assessment exemplars were developed to increase teachers’ narrative literacy practice, to make learning visible, and to engage key stakeholders in shared learning goals and progress. However, evidence indicates these objectives have yet to be fully realised (Blaiklock, 2008; Davis, 2006; Education Review Office, 2007, 2013; White, 2009). As I explore the nature of PAP in these five early childhood centres, I will answer the research sub-question: How is the physically education curriculum planned and implemented? This will provide information concerning teachers’ formal and informal planning methods, revealing whether planning for the PAP programme is well considered. These are areas where a gap in New Zealand literature is evident.

Understanding teachers’ implicit theories of how children learn provides an insight into their practices (Nuttall, 2013). Implicit theories underpin teachers’ decisions as they enact their
role in supporting PAP; for example, through structured and unstructured experiences (Hussain, 2011; Mawson, 2011; Vazou et al., 2016), and such strategies as teacher participation (Harper & McClusky, 2003; Kendrick et al., 2012; Scarlett et al., 2005).

Evidence highlights that not all New Zealand teachers share the same beliefs, values and theories (Alvestad et al., 2009; Foote et al., 2004; Hedges & Cullen, 2005; Jordan, 2008; Mitchell, 2007; Nuttall, 2013). This study aims to add to this body of knowledge as I answer the research sub-question: What are teachers’ beliefs and values surrounding their role in facilitating PAP? in five early childhood centres.

In this literature review I discussed three factors which impacted on the teachers’ role in facilitating PAP: motivation, knowledge, and risk anxiety. The weather and teachers’ enjoyment of being outside were also identified in New Zealand and international literature as impacting the teachers’ role (Lu & Montague, 2015; Martin, 2011; Maynard et al., 2013; Stephenson, 2002; Wilke et al., 2013). These factors affected the duration and range of experiences outdoors (Maynard et al., 2013; Mikkelsen, 2011; Stephenson, 2002). International evidence claimed pre-service and in-service teacher training was required in order for teachers to transition movement encounters to quality learning outcomes through intentional teaching practices (Gagen & Getchell, 2006; Helm & Boos, 1996; Martyniuk & Tucker, 2014; O’Connor & Temple, 2005; Vives Rodriguez, 2005). One Canadian study (Martyniuk & Tucker, 2014) argued that early childhood student teachers needed knowledge and skills to support quality physical activity experiences, a sentiment which could be echoed in New Zealand. While these Canadian findings concluded that students lacked access to this educational component, the paucity of New Zealand research leaves a gap which this current study will address. As I explore the nature of PAP in these five early childhood centres, I will explore the research sub-question: What are teachers’ aspirations for PAP and how are
they able to realise these? Through this study I will provide additional information about
New Zealand teachers’ access to PD and how this knowledge was being utilised to make
improvements to the PAP programme. Through this research sub-question, I also aim to
illuminate how teachers use their knowledge to advocate for the importance of the PAP
programme as part of the curriculum to parents who were perceived as holding differing
values or risk anxieties. This study will also provide information about teachers’ risk anxiety
and how they manage the provision of challenge and risk in their PAP programmes. Such
information would add to that of Stephenson’s (2003) study which investigated how teachers
balanced safety and learning.

Structural factors also impact on the PAP programme. In this review I have discussed the
concept of organisational culture in order to consider how this supports or undermines
teachers’ pedagogical beliefs and practices (Gibbons, 2005; Kilmann, 1989; McLeod, 2002).
Evidence within this literature review pointed to the centre founder establishing the
philosophy of the centre which was transmitted and passed on through the teaching team.
Over time these beliefs became ingrained and often did not represent the sociocultural
framework of Te Whāriki (McLeod, 2002). New teachers to the team experienced a pressure
to conform to the collective norm, undermining their individual beliefs about quality teaching
and learning (McLeod, 2002). It follows that the organisation’s culture can shape how
teachers behave (Gibbons, 2005; Kilmann, 1989). Several New Zealand studies have argued
that early childhood centres must collaboratively review their image of the child in their
organisation’s culture and ensure teaching practices support current theory and valued
learning outcomes for children (McLeod, 2002; Mitchell, 2007; Taylor, 2011). Through this
current study, I will provide an understanding of teachers’ individual beliefs and how these
are draw together into a collective activity, as I explore the nature of PAP in five New Zealand early childhood centres.

In New Zealand the pressure of routines, policies, and regulations are additional structural factors that impact the PAP programme provision (Lockie & Wright, 2002; Stephenson, 2002, 2003). Such factors have been found to impact the children’s abilities to access the outdoors and the nature of the activities offered; for example, the height of climbing apparatus, and access to challenge and risk (Lockie & Wright, 2002; Stephenson, 2002, 2003). Within this current study I will expand on these findings to provide a holistic view of how these factors impact the nature of children’s PAP experiences in five early childhood centres. While one Australian study found teachers had generated some strategies to address the barriers of regulatory constraints (such as using complaint mechanisms), there is no evidence to understand how these constraints are being managed in New Zealand. It is expected that this exploratory study on the nature of PAP will reveal findings which will aid in understanding whether regulations are a perceived constraint to teachers in their work toward the provision of a quality PAP programme, underpinned by Te Whāriki (Ministry of Education, 1996).

In drawing together the conclusions reached through my examination of the literature surrounding the nature of PAP in New Zealand early childhood education, there are some areas where gaps exist. A holistic conceptual framework would support the generation of knowledge on PAP in the curriculum, quality PAP, assessment and planning, the teachers’ role in PAP, factors that impact the teachers’ role, and structural factors that impact the PAP programme, in this current study. The majority of previous studies have used interviews and
questionnaires and a coded or thematic analysis to gain in-depth and rich data. As my intention is to explore the social context of PAP in early childhood centre environments, I consider that a qualitative rather than quantitative study would support the subjective and holistic representation of the participants lived experiences within bounded activity systems. I argue that a further qualitative study would add to the existing body of work that explores the nature of children’s PAP in city-based early childhood centres in New Zealand where I will explore the following sub-questions:

- What are teachers’ aspirations for PAP and how are they able to realise these?
- How do teachers manage the learning environment to support emerging interests in the physical curriculum?
- How is the physical education curriculum planned and implemented?
- What are teachers’ beliefs and values surrounding their role in facilitating PAP?

I consider that this area of study is undeniably valuable to New Zealand teachers in considering ways to improve PAP programmes in early childhood education. Through this study I will provide insight into the enactment of our national curriculum, and the way PAP is being supported by teachers in a New Zealand context across a range of centres and pedagogies.
Chapter Three

Methodology

In this research, I am exploring the question, what is the nature of PAP in city-based early childhood centres in New Zealand? Such a question, qualitative in nature, and phenomenological to a degree, requires the gathering of descriptive accounts about social activity from participants (Mutch, 2005). In this chapter, I will discuss the epistemological foundations of my study: social constructionism and the conceptual framework which utilised Cultural Historical Activity Theory (CHAT), wherein the unit of analysis is identified as the PAP activity system. Thereafter, I describe the research design as I explain the utility of a multiple case study method to present the findings and discussion of the PAP activity system within each centre and to generate cross-case conclusions. I then present in detail how the sites and participants were selected, and the data collection techniques used in this study. The subsequent sections address ethics, data collection procedures, data analysis, rigour and limitations of the study.

Epistemological Foundations

Ontology is a way of considering the nature of reality, while epistemology considers how we come to know (Guba & Lincoln, 2004). This study is based on a theory of knowledge known as social constructionism (Gergen, 1985). Social constructionism assumes a relativist ontology where no truth is absolute nor fixed for all time (Guba & Lincoln, 2004). This is because multiple and often contradictory realities exist among individuals and groups (Guba & Lincoln, 2004). Social constructionism posits that human existence is influenced by social and interpersonal factors (Gergen, 1985). Primarily, we can understand social
constructionism as situated knowledge (Haraway, 1988) and meaning, which develops from our engagement with the real world and the people in it (Crotty, 1998). Knowledge and meanings are embedded in language, culture, and traditions. I consider that the way we understand the world, and the meanings we make, are created in conjunction with others. From this perspective, reality is taken as constructed through social interaction (Heshusius & Ballard, 1996). As such, I consider the nature of reality and what we know as a fluid and evolving framework constructed socially, developed through an understanding of the multiple realities of others (Guba & Lincoln, 2004). Language is the primary medium through which we learn about others’ realities and where understanding and interpretations take place (Radnor, 2002). Learning and action are united as the medium through which knowledge is socially and culturally constructed (Bredo, 2000). Subsequently, the epistemology of my research study is constructionist by nature, transactional and subjectivist (Guba & Lincoln, 2004).

In engaging with constructionist epistemology, I intend to develop an understanding of the nature of PAP in New Zealand early childhood education through an interpretive qualitative study. Van Maanen (1979) defines qualitative research as:

An umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world. (p. 520).

I will engage in the process of re-describing observed social processes as I construct meaning from the data I produce in the field. During my interactions within several early childhood environments, I will utilise data collection methods focused on open ended surveys, group interviews, observations and documentary evidence. In presenting this data I
intend that the resulting cases first be considered in their own right as my interpretation of the participants’ real world experiences. Then, I will read across the cases to construct meaning about PAP in each setting and collectively.

The research question, what is the nature of PAP in city-based early childhood centres in New Zealand?, implies that understanding will emerge as a consequence of gaining multiple perspectives on the phenomena under study from teachers and children in order to develop the PAP activity system in each centre (as the unit of analysis). Therefore, for me to explore different teachers’ views, and teachers’ and children’s experiences on the subject, consistent with my position on how knowledge is produced and the world is to be understood, I expanded my main research question to include the following sub-questions:

- What are teachers’ aspirations for PAP and how are they able to realise these?
- How do teachers manage the learning environment to support emerging interests within the physical curriculum?
- How is the physical education curriculum planned and implemented?
- What are teachers’ beliefs and values surrounding their role in facilitating PAP?

Activity systems analysis provides a means by which to extract meaningful information from complex qualitative data sets in order to conceptualise how phenomena are embedded within situations under examination (Yamagata-Lynch, 2010). The unit of analysis is the human activity embedded within this social context, and is therefore the object-oriented activity itself (Engeström, 1987; Rogoff, 1995; Wertsch, Del Rio & Avarez, 1995). Next, I will explain each component of the CHAT framework to illuminate its purpose for and within this study.
Conceptual Framework

CHAT emerges from a foundation of ideas from Vygotsky, Leont’ev, Il’enkov and Davydov (Engeström & Sannino, 2010). I was drawn toward CHAT as it recognises that learner’s interactions with materials and activity occurs within a social context. Moreover, the social context forms a significant component of the activity itself and, therefore, the development and reconstruction of knowledge. Three generations of CHAT have evolved. The first generation focused on Vygotsky’s concept that subjects/individuals act and react upon mediating objects (tools, instruments, and signs) of their environment, producing an outcome (Nussbaumer, 2012).

![Figure 1. General model of an activity system (Engeström, 1987, p.78. Source http://www.helsinki.fi/cradle/chat.htm used with permission).](image)

This first generation of CHAT is represented by a figure consisting of a triangle of the subject, object, and mediated artefact (the top-most triangle in Figure 1). Second generation activity theory builds in Leont’ev’s concept of the activity of individual people. Leont’ev
(1978) explained that “the concept of activity is necessarily connected with the concept of motive” (p. 62). Subsequently, activity is dependent on the individual’s social position, and factors that influence their life, including interactions of goals, motives, subject, object, action, sociohistorical influences, and activity (Davydov, 1999; Lazarev, 2004). More recently, the third generation of CHAT has been utilised to examine social interactions as they are embedded in larger units, including communities, cultures, and communities of practice, where change innovations are implemented (Nuttall, 2013; Rivera, Galarza, Entz & Tharp, 2002). CHAT has been recently advanced in the work of Yrjö Engeström who developed an activity systems analysis as an analytical framework within CHAT (Engeström & Miettinen, 1999). Activity systems analysis provides a mediated systems approach to analyse networks of interacting activity systems which is multi-voiced, illuminates contradictions, recognises the importance of culture and history, and is oriented toward improvement. Improvement and development results from dynamic and often contradictory relationships between the basic elements of an activity system comprising of subjects, instruments (including tools and symbols), rules, community, division of labour, and object (Engeström, 1987). Given that the aim of this current study did not include the implementation of an innovation or the analyses of interacting networks of activity systems (outside the confines of the early childhood setting), third generation CHAT was not used. As I was interested in how individual teachers transformed their social environments within a collective activity, I drew on Leont’ev’s (1978) definition to explore motive (where activity is oriented toward an object) through a sociocultural framework. In this way, the inner workings of the phenomena (the early childhood centre working toward their PAP objects) were preserved as it functioned as a holistic unit. Alongside this concept is that of the activity as a self-moving phenomenon of social change (Leont’ev, 1981; Roth, 2014) working at both the individual and social levels. As this study is exploratory and descriptive of the
activity system of PAP (as the unit of analysis), I utilised second generation CHAT. This enabled me to expand the unit of analysis to consider each case as constituted by multiple activity systems (of teachers) and the relationships between them (the collective activity system of PAP). This provided me with a means of analysing multiple activity systems, looking for meaning within the individual systems, and where they intersect as a collective (see Figure 2, p. 63).

*Figure 2.* Model of second generation CHAT used to identify and examine teachers’ individual activity systems and how this informs the collective activity system.

Given the difficulty in finding English words with which to convey the original meaning of the Russian authors of CHAT, different interpretations for “object” (such as goals and motives) have ensued (Yamagata-Lynch, 2010). Yamagata-Lynch (2010) stated, “what CHAT scholars do agree about is that the ‘object’ is the reason why individuals and groups choose to participate in the activity, and it is what holds together the elements in an activity”
This study adopts this definition of object whereby the object of the PAP programme binds the activity system elements. These objects become the starting point for the analysis as they are mediated through other system elements. Teachers’ work toward their immediate objects (as goals and priorities), mediated through instruments, rules, community, and division of labour, in their pursuit of the ultimate outcome of a quality PAP programme.

This conceptual framework makes sense in a study of early childhood teachers’ practices in the context of *Te Whāriki: Early Childhood Curriculum* (Ministry of Education, 1996) because there are synergies between elements of CHAT and *Te Whāriki*. For example, both the curriculum and CHAT emphasise the importance of culturally and socially mediated learning. *Te Whāriki* reflect these socio-cultural underpinnings through the four principles; empowerment, holistic development, family and community, and relationships (Ministry of Education, 1996). A significant objective of *Te Whāriki* is to promote reciprocal and responsive relationships for children that encompass the dynamics of people, places, and things (Ministry of Education, 1996). These align with the activity system elements which project the relationships and dynamics of the subjects, community, division of labour (people, places) and things which include the elements of rules, instruments, object and outcome. Therefore, the socio-cultural underpinnings of *Te Whāriki* which incorporate theoretical perspectives of Vygotsky and Bronfenbrenner (Carr & May, 1993, Ministry of Education, 1996) align with the conceptual framework of the study and the activity systems analysis of the methodology. This study examines individual teachers’ activity systems and that of the collective at several early childhood centres, through a series of bounded cases. The rationale for this choice is further explained in the following section.
Research Design

Case studies investigate a phenomenon within a particular context (Merriam, 2009). This involves the intensive holistic scope of a bounded system (case) which differentiates it from other qualitative methods (Riege, 2003; Yin, 2009). Therefore, presenting the PAP activity systems (the unit of analysis) as a multiple case study provided a design in which to answer the broad research questions. As Yamagata-Lynch (2010) has identified, “activity settings provide frameworks for identifying bounded contexts in which the object-oriented activities and goal directed actions that investigators observe take place” (p. 24). In the educational field case studies provide an in-depth, rich understanding of the situation and those involved, and are useful for influencing practice and policy (Merriam, 2009; Yin, 2009,). This study involved the production of multiple cases as a means to then generate cross-case PAP activity system themes. The approach to each case study was a descriptive narrative illustration of what was happening there (Yin, 2009), as the early childhood centre were immersed in their PAP activity system. Through this interpretive process I was able to bind the contextual information that was most relevant and essential to the data set of each activity setting.

Case studies offer strengths, flexibilities, and limitations in their design. A case, while not generalisable to populations, can be considered transferable (Springer, 2010) – that is, it is possible, in like cases, to find elements of a case emulated in another. In this study, transferability was strengthened through the use of a multicase design; however, managing the large data set presented a challenge to me as a researcher. In order to ameliorate this issue, I arranged to collect the data from each centre separately, allowing a week to collate the data before attending the next. The strengths of a case study approach include its flexibility in collecting data, investigating complex social units, and the presentation of
results which can be understood by a wide audience (Springer, 2010). These can provide insights into similar situations and cases with an opportunity to offer support for alternative interpretations. In education, case studies particularly contribute toward “action” encompassing individuals, groups, organisations, formative evaluation, and policy decisions (Cohen, Manion & Morrison, 2007). Stake (2005) has argued that the descriptive nature of a case including the narrative used to present it offers the reader a vicarious encounter, while Eisner (1991) has acclaimed cases can offer “a vivid portrait of excellent teaching, for example – can become a prototype that can be used in the education of teachers or for the appraisal of teaching” (p. 199). However, Merriam (2009) has identified that the rich and descriptive analysis of the phenomena can create a lengthy study which may reduce the readership of those such as busy policymakers and practitioners. I consider that this could be a limitation of this multicase study, and thus, I continually grappled to constrain the length of the final thesis report to mitigate this possible limitation.

Participants and case study sites.

Teachers (N = 24) in city-based, early childhood centres licensed for up to 40 children aged between 2 to 6 years and delivering an English medium curriculum in New Zealand were recruited for this study. This purposive sample of city-based centres was selected due to their accessibility to the researcher. One eligible early childhood centre from each of the five co-located suburbs of a large New Zealand city were randomly selected and approached. An online random number generator was used for the selection process of sites. I began with the early childhood centre allocated number one and when one centre was recruited from each suburb I did not approach any others. I approached a total of nine early childhood centres. In four of the suburbs the first centre I approached agreed to participate. However, for various
situated reasons (for example, staff turnover and a change in ownership) in one suburb I approached five centres before one consented to participate.

The initial contact with the centres was by telephone to see if they were interested in participating. This was followed by face-to-face meetings to gain informed consent from management, teachers, and parents of children who attended the centre (see Appendix B & C). Parents of children were asked to consent to their children’s participation. Children were consulted about their ongoing participation through the use of a book about the study which was read daily to them while data was collected (see Appendix D). As the teachers and children were the key contributors to the PAP activity system in each centre, I excluded the collection of data from parents, including their socio-economic backgrounds. In appreciation of their participation in this study, each centre received a $50 book voucher.

Each of the early childhood centres were licensed by the Ministry of Education as having met the Licensing criteria for early childhood education and care centres 2008 and early childhood education curriculum framework (Ministry of Education, 2009). This license addresses requirements of the Education Act and its corresponding regulations and standards, wherein each of the early childhood centres met the regulatory requirements for outdoor space identified as a minimum of 5 square metres per child under regulation 54(3) (Ministry of Education, 2008). Below are the demographic details that I collected at each centre followed by the child demographics by age group. These provide a context for the subjects (teachers) and community (children) elements of the PAP activity systems analysis. Details about the children’s ethnicities and the number of children centres were licensed for is
expanded within the findings and analysis of each case in chapters four to eight, as I describe the PAP activity systems in these centres.

Table 1

Teacher demographic information

<table>
<thead>
<tr>
<th>Centre</th>
<th>Teacher</th>
<th>Part-time/ Full-time</th>
<th>Ethnicity</th>
<th>Age range</th>
<th>Years of experience</th>
<th>ECE Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunrise</td>
<td>Hannah</td>
<td>Full-time</td>
<td>NZ European</td>
<td>20-29</td>
<td>9</td>
<td>BEd</td>
</tr>
<tr>
<td>Sunrise</td>
<td>Danielle</td>
<td>Full-time</td>
<td>NZ European</td>
<td>20-29</td>
<td>7</td>
<td>BEd</td>
</tr>
<tr>
<td>Sunrise</td>
<td>Lauren</td>
<td>Full-time</td>
<td>NZ European</td>
<td>20-29</td>
<td>14</td>
<td>BEd</td>
</tr>
<tr>
<td>Sunrise</td>
<td>Faith</td>
<td>Part-time</td>
<td>Filipino</td>
<td>50-59</td>
<td>10</td>
<td>Cert.</td>
</tr>
<tr>
<td>Sunrise</td>
<td>Karen</td>
<td>Part-time</td>
<td>Cook Is/Chinese</td>
<td>30-39</td>
<td>Not recorded</td>
<td>BEd</td>
</tr>
<tr>
<td>Pastels</td>
<td>Nina</td>
<td>Full-time</td>
<td>NZ European</td>
<td>40-49</td>
<td>22</td>
<td>BEd</td>
</tr>
<tr>
<td>Pastels</td>
<td>Diane</td>
<td>Full-time</td>
<td>Scottish</td>
<td>30-39</td>
<td>2</td>
<td>Grad. Dip ECE</td>
</tr>
<tr>
<td>Pastels</td>
<td>Penny</td>
<td>Full-time</td>
<td>NZ European</td>
<td>30-39</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Pastels</td>
<td>Lucy</td>
<td>Part-time</td>
<td>NZ European</td>
<td>30-39</td>
<td>3mths</td>
<td></td>
</tr>
<tr>
<td>Pastels</td>
<td>Xanthe</td>
<td>Part-time</td>
<td>NZ European</td>
<td>50-59</td>
<td>9mths</td>
<td></td>
</tr>
<tr>
<td>Pastels</td>
<td>Ulla</td>
<td>Part-time</td>
<td>African</td>
<td>50-59</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Limelight</td>
<td>Emeny</td>
<td>Full-time</td>
<td>Tongan</td>
<td>20-29</td>
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<tr>
<td>Limelight</td>
<td>Osana</td>
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<td>Samoan</td>
<td>40-49</td>
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<td>Dip. Tchg ECE</td>
</tr>
<tr>
<td>Limelight</td>
<td>Nisha</td>
<td>Part-time</td>
<td>Indian</td>
<td>30-39</td>
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<td>BEd</td>
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<td>Tania</td>
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<td>New Caledonian</td>
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<td>30-39</td>
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<td>Grad. Dip ECE</td>
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<td>Melody</td>
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<td>NZ European</td>
<td>40-49</td>
<td>6</td>
<td>Postgrad. Dip ECE</td>
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<tr>
<td>Funtimes</td>
<td>Tess</td>
<td>Part-time</td>
<td>NZ European</td>
<td>60+</td>
<td>20</td>
<td>Cert.</td>
</tr>
</tbody>
</table>
Table 2

Child demographic by age group for each centre

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<tr>
<th>Centre</th>
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<th>2-year-olds</th>
<th>3-year-olds</th>
<th>4-year-olds</th>
<th>5-year-olds</th>
</tr>
</thead>
<tbody>
<tr>
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<td>38</td>
<td>9</td>
<td>17</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Pastels</td>
<td>61</td>
<td>22</td>
<td>17</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>Limelight</td>
<td>23</td>
<td>2</td>
<td>13</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Funtimes</td>
<td>50</td>
<td>0</td>
<td>28</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>Rainbow</td>
<td>53</td>
<td>4</td>
<td>30</td>
<td>19</td>
<td>0</td>
</tr>
</tbody>
</table>

Data Collection

I attended each centre to collect data during the spring of 2014. I chose this season as the spring climate in this city offered mild weather conditions and outdoor temperatures ranging from 12 to 18 degrees celsius. I aimed to ensure that extreme hot or cold weather conditions would not distort the data. I collected data using several methods:

- open ended survey for each individual teacher,
- group interviews,
- observations, and
- document analysis.
The next section will explore each of these methods and provide a rationale for their inclusion.

**Open ended survey.**

In order to gather demographic and other useful information on each individual teacher and the centre demographic details, I developed an open ended survey for teachers (see Appendix E) and a centre survey (see Appendix F). The characteristics of the participating centres are presented in a table format (see Table 1 and Table 2). The surveys helped me gain an understanding of each teacher’s perceptions, motives, implicit theories, and pedagogical values in relation to PAP. However, designing the survey tool was challenging. To ensure that the questions would produce the information I needed I first trialled the survey with a centre unrelated to this study. I designed an observation schedule for each site based on the information gathered from the individual teacher surveys and the group interview data. Therefore, it was a formative process at each site. The kinds of questions included in the survey were: During my observations, what would you like me to notice in your planning and facilitation of PAP?; and Is this a curriculum area you feel confident in facilitating? I sent out a total of 24 surveys, with 100% response rate. However, one survey was returned with only the teacher’s demographic information completed.

**Group interviews.**

Group interviews acknowledged the voices of early childhood educators as instrumental to knowledge formation in this context-driven study. Conducting group interviews with each teaching team allowed me to delve into the constructs of:
• centre culture,
• shared vision,
• teachers’ implicit theories, and
• teaching practices.

Through group interviews participants were empowered to contribute to their teaching team’s discussion. Such discussion, where multiple participants formulate a joint response or consensus, often described as “group effect”, is advantageous in allowing comparative narratives and dimensions to emerge (Carey, 1994). This opportunity for me to observe the discussions among participants and seek clarification on their experiences removed the need to speculate over discordance. During the group interview I occasionally took on a participatory role when I was included in the discussions with teachers. As I had been present at the centre for the duration of the day before the interview, teachers sometimes involved me in discussions about activities that I had seen.

The kinds of group interview questions included: Does your centre have aspirations for PAP? If so, what are these and how are they realised?; What expectations do you think parents have regarding their child’s physical skill development?; and How do you meet these expectations? (see Appendix G). I recorded and transcribed these meetings.

Observations of teachers.

Data was also gathered from observations. I visited centres over three consecutive days, covering the complete hours of operation, to observe teaching in the PAP programme. These observations focused on teachers’ practices, strategies, behaviours, activities, participation,
and interactions as they facilitated PAP (see Figure 3, p. 72). One advantage of the observations was that they provided the opportunity to directly record the context of interactions and behaviours. Direct observation does not rely on retrospective accounts and is widely used in qualitative research to aid trustworthiness. When data gathering occurs within the natural setting it assists in providing a holistic view (Mann & Stewart, 2004).

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**Figure 3.** Example of the observation schedule used.
I considered that my taking a non-participant role when observing teachers and children, provided data to compare to policies and teachers espoused views of their intended practice versus their actual practice. However, it was difficult to remain on the periphery of play and I often had to decline the children’s invitation to engage. An advantage that I encountered in conducting such frequent observations was the ability to capture teachers’ informal comments and explanations concerning their decisions, within this data gathering technique. As an observer, I realised that data would be filtered through my own lens, as observing involves interpretation (Springer, 2010), and having these explanations directly from the teachers proved valuable. However, as a means of reducing the influence of my own biases, assumptions, values, and judgments I employed practices of reflexivity (Springer, 2010). Reflexivity is the conscious reflection of the researcher on their own biases and assumptions in order to present the findings as accurately as possible (Springer, 2010). One example of my use of reflexivity in the data analysis phase was to initially read through each interview transcript and write my personal reader response alongside the transcribed interview data. This strategy was useful in situating myself socially, emotionally, and intellectually within the boundary of the respondent’s narrative and my own interpretation. This process helped me to be conscious of how being an early childhood teacher, and my prior knowledge, could influence my interpretations. I was also able to think reflexively through my participation in a qualitative support group of four PhD students who met every three weeks. I received feedback from the group as I shared my reflective journal and sought advice and feedback as Figure 4 (p. 74) demonstrates.
Reflective journal extract

I’m nervous that they’ll read the thesis and feel it is critical of their practice. As I am both a researcher and teacher I’m concerned about how they’ll perceive me and I also worry what it might mean for them participating in future research. However, I want my thesis to ‘speak’ to teachers and I want to provide an accurate depiction of ‘what is happening here’ but I continue to struggle with presenting my analysis in a neutral way in my writing. Could I please ask for the group’s advice on the extract below?

Activities that included challenge and risk had many rules attached and were closely monitored by teachers as described in the following extract where Nathan and Shalini supervised children jumping from a box onto a landing mat:

“Oh Mandy has found the backdoor” says Nathan as a child climbs the box instead of the ramp.

“Let’s just have one way to go, oh no pushing. Let’s have a rule about how many children on the box at a time. Let’s have a jumper and a waiter” says Nathan. “Wait until she’s gone” Shalini says to a boy on the mat. “Not there go up the ladder” says Shalini. “Wait, wait only two at a time” says Nathan. “Stay away from the mat” says Nathan. (Observation 406).

In the survey Nathan highlighted his aspirations for more risky forms of physical activity to be available in the physically active play programme. He states that the diversity in age range and shared environment makes this problematic explaining “as requiring perhaps too much policing by teachers” (Nathan, Survey). This activity at Rainbow centre of jumping off the box held many constraints and restrictions such as directionality, choice of how to get up the box, how many on the box, and when to jump. There was little autonomy, self-regulation or child-initiated risk assessment encouraged by teachers within this learning experience. Teachers must consider the balance between providing structured boundaries and allowing the freedom for children to choose elements to incorporate and explore within activities (Hussain, 2011).

Reviewer’s comment:

If you are worried about being negatively perceived by Nathan then you might need to engage with Nathan’s perspective more. Why is Nathan saying he wants more risky play but then closely policing? Does Nathan really want more risky play or is he saying that because he thinks that is “right” or what you expect him to say and he is responding to you as a researcher? If he really does want more risky play why isn’t he allowing it to happen? Maybe because he knows that if anyone gets hurt he has to fill out an incident report, deal with a crying child, explain to the parents what happened (knowing the parents might not share his desire for risky play). If you put yourself in Nathan’s shoes a bit more I think he is less likely to be offended because you are engaging with his perspective, even if you are ultimately saying he got the balance wrong.

Figure 4. Reflective journal extract.

Prior to the collection of data, I was also aware of the possibility of distortions in my observational data (due to social desirability bias), which could occur if participants consciously changed their behaviour to reflect expected practices based on the study objectives (Scott & Morrison, 2006). To mitigate this, I conducted observations over a full
day of each centre's operation on three consecutive days. This allowed teachers (and children) to become accustomed to my presence and to assume as close to a natural role as possible. Similarly, I spent a day with the teachers at the centre before the group interview as a means to mitigate the Hawthorne effect. Springer (2010) defines the Hawthorne effect as, “Any changes in behaviour that occur when individuals are aware of receiving special attention during their participation in a research study” (p. 540). I was also aware the Hawthorne effect could influence the behaviour of the teachers during my observations of them engaged in PAP more readily if they were aware of the details of my observation schedule. Therefore, I did not provide these for member checking until the completion of the three days of observations. It was expected that these strategies, while not overcoming the Hawthorne effect, would minimise the possibility of teachers’ engagement and support of PAP being inflated.

**Framing for the observational data.**

Part of the decision-making about what to observe was informed by data gathered from the teachers’ individual open-ended surveys and the group interview data. The observation framework was both an emergent and formative process. At each observation visit I identified with teachers any specific programme area, activity, or event that was being planned as part of the PAP programme (see Figure 5, p. 77).

I wrote narrative and descriptive observations of the identified activity at regular 15 minute intervals. In addition I wrote narrative and descriptive observations of any teacher-led or child-initiated PAP that occurred during the observation period. All narratives recorded in
respect to children were anonymous. I wrote field notes about my impressions of children’s and teachers’ engagement in PAP experiences at each visit. The observation schedule which I designed for this study presented an effective way of recording the teachers’ and children’s interactions with the activity systems objects. Bardram and Doryab (2011) have stated, “activity theory argues that human activity is always directed towards an object that exists outside the human. The person’s motive is then a reflection of this object” (p. 456). The strength of this data collection method was two-fold. Firstly, these teacher observations allowed me to explore their expectations for planned activity and to reveal why it was planned. Secondly, I was able to observe the teacher’s and children’s engagement with these activities, in addition to the spontaneous PAP which occurred throughout the day.

**Documentary evidence.**

The documentary evidence I gathered during this study included policies, procedures, information about supervision ratios, and planning documentation utilised in teachers’ facilitated PAP (including information from children’s portfolios). My interpretation of the documentary evidence provided information about the barriers and enablers which impact on the teachers’ role. A strength of this data collection method was the utility of gathering documents and examining these in light of my observations and interview data, where I could use CHAT to locate points of tension and contradiction. However, as these documents had not been produced directly for this research, the drawback was the abundance of documents necessary to examine in order to locate those pertaining to PAP. I also generated my own documents as a valuable source of data (Merrriam, 2000). For example, I documented the environment and resources of each centre, particularly in relation to fixed and moveable equipment. I took photographs (if children were not present in those areas) as an expedient
means to document outside space and equipment available to children. The following section will examine the ethical approval and consent process of this study.

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**Figure 5.** Example of a teacher’s daily purposefully planned activity.
Ethical Considerations

A research proposal was submitted for approval to the Otago University Ethics Committee, and once approval was gained, consent to participate in the study was first sought from the management personnel of each centre. At the Rainbow Centre consent was required from a committee, and the large public early childhood organisation to which it belonged. This involved an additional ethics application to be submitted and approved by the organisation. At each centre consent was also gained from each member of the teaching team and the parents of children who attended. Consent was gained from all parents prior to my attendance at the centre before observations began. I consulted with children about the study, prior to, and during, the study (Mahon, Glendinning, Clarke & Craig, 1996). In order to provide the children with general information about the study, I developed a book to describe my purpose in the centre and general details of the study. The book remained in each setting while I was collecting data, so it could be read each day. The book communicated to children that they had the right to say that they did not want to be observed or have information written about them. Myself, or another teacher read the book to the group of children at least once each day. However, I did not receive any verbal or non-verbal communication that my observations were unwelcome during the course of the data collection. All participants received a full disclosure of the research aims and methodology, including the expectation that the study would be published to wide audiences as a thesis, disseminated in published articles, and presented at conferences and other events. Ensuring anonymity was a difficulty of this study due to the relationship amongst teaching teams in their own centre, and group interviews where each teacher was present. However, every effort was made, in the production of this thesis, to ensure that names and identifiers could not be linked to specific teaching teams or educational settings. To the best of my knowledge, the centre participants remain unaware of the four other centres who contributed to this study. Names and
identifiers of the early childhood centres, teachers, children, and parents were changed to enhance the participants’ privacy and confidentiality. In addition, sketches rather than photographs of the PAP environments were presented in the findings chapters; unfortunately in reproducing these sketches some appear less clear than others. This was a compromise in the representation of the study I was prepared to accept. The principle of participant safety and confidentiality was more important to me than the inclusion of photographic representations of play areas, which could lead to the identification of participant teachers and settings. All raw data was destroyed upon completion of the study. Participants were made aware that they could withdraw from the study at any time until the raw data was transcribed.

I collected data from open ended surveys, group interviews, observations, and documents. Member checking of all data collected ensured participants were comfortable with disclosures (Springer, 2010). Informed consent was gained prior to study commencement and confirmed when the member checking of all data was complete. My role as researcher was as guardian, to continually ensure no harm would come to participants through the process of research output (Spoonley, 2003).

Cultural sensitivity was aided through face-to-face interactions, and the relationships I formed with the participants in group interviews and data gathering (Tolich, 2002). This research was conducted in New Zealand, and therefore, biculturalism and upholding the obligations of the Treaty of Waitangi were important. Māori consultation was sought as part of the Otago University Ethical Approval process and recommendations from this process were amalgamated into this study. These included self-identified ethnicity and decent
questions, and a commitment to disseminating and distributing the research findings to National Māori Educational organisations. As Tolich (2002) argues, all New Zealand issues have a Māori context. Potential policy review, centre self-review or action research projects which could ensue would provide increased physical activity opportunities for all children, irrespective of ethnicity. The following section will describe the procedures relevant to this study.

**Procedures**

Upon consent for participation, a suitable time was scheduled to commence the one week study in each centre. I arranged for the consent forms to be delivered so these could be gathered prior to my visit, allowing time to ascertain if there were parents who did not consent. Fortunately, all parents consented. The open ended survey, centre demographic details, and group interview data were gathered during the first day on site, followed by three consecutive days of observations, culminating in the collection of documentary evidence on the fifth day. Each subsequent centre was managed in the same way ensuring informed consent from all participants began the process.

**Data Analysis**

*Open ended survey.*

The demographic information gathered from each teacher is represented in Table 1. The open ended survey questions were analysed using CHAT and a priori codes from Engeström’s (1987) activity systems model. Each individual teacher’s activity system was described as a result of this.
- Subject (experience, training, the teachers’ implicit beliefs and values).
- Object (the PAP programme and the goals being prioritised toward it).
- Outcome (a quality PAP programme).
- Instruments (environment, resources, assessment and planning, PD, teaching strategies, self-review tools).
- Rules (agreed understandings of how things are done, individual rules, centre rules, regulations).
- Community (parents and children).
- Division of labour (rosters, job descriptions, hierarchy within the centre, supervision plans, allocation of children’s portfolios for planning).

Figure 6 (p. 82) is a representation of Melody’s individual activity system. It includes the data from the open ended survey, from which I identified the beliefs and practices about teacher participation and interactions, range of activities, and resources which Melody reported on in her survey. On the activity system diagram (see Figure 6, p. 82), I noted when I observed Melody demonstrate the kinds of beliefs and practice she had espoused (for example, observation numbers 305, 306, 340). This style of analysis (in Melody’s example) was utilised for each teacher.
Figure 6. Example of the CHAT analysis using the survey and observation data.
**Group interviews.**

Group interviews were recorded, video-taped, and transcribed. In this section, I provide information on the conventions I used for transcription. Some examples of the problems inherent in transcribing interviews include: dealing with pauses, pronunciation, non-word elements, utterances, and labels to indicate which phrases came from the same source (Kvale & Brinkmann, 2009). There has been considerable discussion on how to transform the oral interview into the written transcript as a true and objective account, and subsequently, the choices to be made on such conventions (Gorden, 1992; Kvale & Brinkmann, 2009; Scheurich, 1995; Silverman, 2011). Kvale and Brinkmann (2009) have argued that “a more constructive question is: What is a useful transcription for my research purposes?” (p. 186).

While the use of verbatim transcripts is the ideal database for analysis in a case study (Merriam, 2009), I was concerned that when English was a second language, these extracts of data would be difficult to read if not grammatically corrected. On this basis, grammatical corrections were made to the data. The conventions I used for transcription in this study are detailed in the following section.

I included the use of the first initial of the participants’ name, and that of the centre, which was used for member checking. Following the member checking, these initials were changed to pseudonyms to allow the reader to follow the flow of the group interview discussion, each participant’s contributions, and to maintain participant confidentiality and privacy. The format of the interview transcript was designed to enable analysis. This format included line numbering down the left hand side of the page with single spacing and a double space between speakers. Interview questions were written in bold (see Figure 7, p. 84). A large margin on the right hand side of the page was used for analysis (Merriam, 2009).
grammatical errors or the sequence of words hindered the readability, I made minor
adjustments. I strove to ensure that when I made the transition between talk and text that
these remained a true account of the participant’s intentions.

As the interview included multiple participants interacting together, it was important that I
identified who was talking to whom when participants were addressing each other rather than
myself. The video recording of the group interview enabled this to be recorded in the
transcript. Comments exchanged between participants were recorded as pseudonym speaking
to pseudonym. Overlaps in the multi-talk were written on separate lines with a dash (-)
indicating that the participant was interrupted by another speaking simultaneously. A dash
signalled the cut-off speech and where the next participant interjected their line of discussion.

Figure 7. Example of transcript.
The interviews were analysed using Engeström’s (1987) CHAT a priori codes (see Figure 7, p. 84). Each member of the teaching team at each centre was considered the subject of their own activity system (see Figure 1, p. 61). The CHAT analysis also identified how each of the individual activity systems shared the object within a bound case of an early childhood centre through the production of a collective activity system (see Figure 2, p. 63).

**Observations.**

I read the observation field notes and analysed them using CHAT following Engeström’s (1987) a priori codes (subject, object, outcome, instruments, rules, community, and division of labour). I also recorded the teachers’ survey information on this analysis to compare espoused and observed beliefs and practices (see Figure 6, p. 82, which represents Melody’s individual activity system).

**Documentary evidence.**

The documentary evidence was analysed using CHAT, as per the a priori codes described earlier. This provided a view of the nature of the PAP programme in the centre and how it was supported by overarching documentation. The types of documentation included: wall displays, policies, procedures, regulations, children’s portfolios (which included learning stories), and curriculum planning.
The Cases

Figure 8 illustrates the sources of evidence upon which each case was developed in order to answer the research question: What is the nature of PAP in city-based early childhood centres in New Zealand? Each case in turn contributed to the cross-case conclusions surrounding the nature of PAP in this sample of five early childhood centres in New Zealand.

Figure 8. The sources of evidence upon which each case was developed.

**The collective activity system.**

I was able to represent the collective activity system of each early childhood setting by identifying the interconnecting points within each subject’s individual activity systems (see Figure 2, p. 63). Because the objects of an activity system are fluid and often in motion, I first identified the objects each teacher was actively pursuing. With the objects as the foci, I analysed how other elements of the system were being used to mediate these objects (for example: rules, division of labour, community, instruments). As I drew each teacher’s individual objects into the collective activity system it was necessary to exclude those objects...
that were not being actively worked on. For example, Osana’s object to increase shade outside was excluded, as was Melody’s object to visit other early childhood centres to observe their PAP programme, as these were not being actioned. In addition, I excluded factors from the model (individual and collective) which held no bearing on the teachers’ goal-oriented and goal-directed actions on their PAP objects. On occasion, it was necessary to include some historical information to provide a context for how the teaching team had arrived at their immediate objects. For example, at the Funtimes Centre a series of outdoor accidents had precipitated self-review a few months prior to my data collection. In this case, it was necessary to describe their self-review journey to-date in order to provide a context for their immediate objects. The findings and discussion of each centres PAP activity system will occur in the case study chapters 4 though 8.

Cross-case comparisons.

As this study included multiple cases, recurring factors emerged in the activity systems analyses, and while not generalisable, it was important to synthesise these relationships and commonalities where inferences could be made (Bazeley, 2013). In each of these five centres, some objects being pursued were revealed to be the same (e.g., self-review), but reflected different meanings for the teachers in each setting. In addition, these common objects across the five cases were being mediated in different ways, revealing different tensions and areas of success. Therefore, the conclusion chapter looks at the cross-case discussion. Here I respond to the research questions where each of the objects being advanced across cases, the use of recurring instruments and rules to mediate the objects, and the major contradictions which emerged in these five PAP collective activity systems, will be discussed.
In summary, this study was exploratory in nature and utilised second generation CHAT where I was neither a participant nor taking an interventionist approach. Therefore, I used CHAT as an analytic tool to understand the complex learning situation in action as the teaching team in each centre strove toward the outcome of a quality PAP programme. I discussed how the subjects questioned their existing practices, prioritised immediate objects, and the tensions and contradictions that arose in striving to achieve these. The analysis, findings, and discussion represented in each case provided important information for comparison across cases, from which conclusions were drawn.

**Ensuring Quality**

In the following section I examine the trustworthiness, credibility, transferability, dependability, and confirmability of this study. I provide an outline of the ways in which I mitigated potentially problematic areas and present the limitations of this study.

As quality in qualitative research is addressed through the concept of trustworthiness, it was important to ensure that the reader would consider the study an accurate account, worthy of note (Springer, 2010). To achieve this, I assessed the trustworthiness of this study. Primarily this study aimed to advance knowledge through enhancing an understanding of the nature of children’s PAP in city-based early childhood centres. My aim was not to make judgments about teachers’ beliefs and practices or critique the way PAP programmes were delivered. As Bogdan and Biklen (1998) argued, “for a study to blame someone for a particular state of affairs, or to label a particular school as ‘good’ or ‘bad’, or to present a pat prejudicial
analysis can brand a study as superficial” (p. 34). In this regard I strove to accurately reflect participant’s accounts and interpret these without prejudice or bias. I constantly confronted my opinions and biases during the data collection, interpretation, and writing phases of the study and this was key to my reflexive process (Springer, 2010). I began this reflexive process by making clear my assumptions, preconceptions, and biases in order to ensure transparency between the findings and my subsequent interpretations. My reflective journal helped me to examine how my experience as a teacher, and extended interest in physical activity in early childhood education, could affect my study. I acknowledged the need to withhold any preconceived notions from the study and refrain from using data to substantiate these. I found that my participation in a qualitative support group of research students was beneficial to my reflexive process, as a forum to discuss these issues. Such measures diminished, but did not eliminate these issues as I recognised the impossibility of remaining completely objective.

I established trustworthiness through member checking of all data collected in each case study to ensure it reflected the participant’s experiences and contributions (Corwin & Clemens, 2012). Certainly, the aim was to be faithful to the participants, to reflect their stories which had been provided in good faith. I provided excerpts from interviews, surveys, and observations to illustrate meaning and provide authenticity to the study. The inclusion of multiple cases in the study allowed recurring factors to emerge and provide strength to the inferences which could be made. Case studies do not allow direct generalisations to be made, which is a limitation of this study. However, this research can be used to identify relationships within the population of participants, and to develop general theories which apply beyond the settings. I collected multiple sources of evidence during the study which
allowed these to be tested against each other to provide alternative explanations, and for cross-checking to occur.

Credibility refers to the degree to which research portrays an authentic account of what is being studied (Miles & Hubberman, 1994). In this study, I collected sufficient data from a small number of New Zealand city centres, to represent the reality of these city-based centres. Lincoln and Guba (1985) describe credibility as providing a study that makes sense, where the findings are credible to the reader. To aid this process, I collected an abundance of rich data from a range of sources. I continually questioned, checked, and interpreted the data to identify emerging findings. Consensus was established through my careful data analysis and cross-checking processes. I also utilised collegial knowledge, and supervisory advice and support to discuss my interpretation of the data which aided the credibility of this study.

Transferability in this qualitative research study was hindered by the limited number of participants that could be studied given the timeframe (Springer, 2010). I discerned that the nature of the fieldwork required, and the time involved in managing the large data set (which included rich descriptive data) determined that I only include five case studies. As with all qualitative studies it is not possible for this study to offer generalisations. However, the insights that this study produced may be transferable (Lincoln & Guba, 1985), and therefore I provided sufficient information about the demographics of the early childhood centres, teachers, and information about the centre environments. The inclusion of rich textual accounts from the participants in chapters four to eight facilitate the readers’ ability to make inferences and enhanced transferability.
Dependability concerns the extent to which another researcher could discover the same phenomena or similar constructs through a replication of this study (Lincoln & Guba, 1985). This relies on the replicability of findings and the study’s results being consistent with the data collected. In order to accomplish dependability, I ensured that a chain of evidence existed throughout the study. The evidence provided in my study will assist the reader in making the connections between data and findings. One of the methods I used for accomplishing this connection is the use of verbatim quotes from the participants. As Yin (2009) explains, the reader should be able to “trace the steps in either direction from conclusions back to initial research questions or from questions to conclusions” (p. 105). In this regard, I have ensured that my research is organised efficiently and concisely with a clear chain of evidence. I have included extensive appendices in this thesis to aid the dependability and replicability of the study.

In addition, I utilised a reflective journal to document my research journey, identifying my professional knowledge building, personal achievements, and dilemmas. I used the journal to inform the portfolio section required for the EdD programme and to aid the confirmability of the study. In the journal, I reflected on all aspects of the study including the data collection, analysis phase, and contradictions which arose during the open ended surveys, group interviews, observations, and documentary evidence collected during the study. Reflection helped me to consider how to analyse, interpret, and present the findings accurately. By accounting for the learning process and the process of sharing the study with participants, colleagues, and supervisors, I was able to enhance the confirmability of the study. My
intention was that the quality of this study would provide trustworthiness to the reader and consequently, provide valuable contributions to knowledge.

**Conclusion**

This qualitative study draws on data collected in the spring of 2014, from five case studies, subjected to CHAT analyses. The five chapters that follow describe activity systems of PAP in operation at the early childhood centres whose teachers participated in this study. Each system is described by its constituent parts, foregrounded by individual teachers’ activity systems, before being presented as a collective case. In each case, tensions, contradictions, and successes within the systems are discussed to illustrate and address the research sub-questions:

- What are teachers’ aspirations for PAP and how are they able to realise these?
- How do teachers manage the learning environment to support emerging interests in the physical curriculum?
- How is the physical education curriculum planned and implemented?
- What are teachers’ beliefs and values surrounding their role in facilitating PAP?
Chapter Four

A Case Study of PAP at the Sunrise Centre

In this chapter I will introduce the Sunrise Centre and describe the PAP activity system during the time I was at the centre to gather data. I discuss the six contradictions revealed in the analysis between the instruments, rules, and community as teachers worked on objects of “self-review”, “the PAP programme”, and “parent education”. I argue how these contradictions worked to advance or impede the attainment of the objects in this PAP activity system as I discuss teachers’ inability to access PD, disparity between teachers’ beliefs and practices, free play and structured activities, regulations as a constraint, new bike rules, and disparity in teachers and parents perceived values on PAP. To conclude the chapter, I summarise the key findings from this case study to illuminate the successes in the PAP activity system as these teachers worked toward their objects.

An Introduction to the Sunrise Centre

The Sunrise Centre was privately owned and comprised a team of three fulltime teachers: Hannah, Lauren, and Danielle and two part time teachers: Karen and Faith. Their teaching experience ranged from 7 to 14 years. The Sunrise Centre was licensed for 24 children aged 2 to 5 years and offered a full day programme from 7:30 a.m. to 5:30 p.m. each day. Full-time teachers roster their working hours from 7:30 a.m. to 3:00 p.m. or from 9:00 a.m. to 5:30 p.m. Across my three days of observations the mean number of children attending daily was 21. The majority of children enrolled were New Zealand European (92%), 3% Indian, and 5% of other ethnicities, such as Dutch and Japanese.
Children accessed the outdoor area through doors leading onto a covered deck area with seating around the edge (see Figure 9, p. 95). The outside area was a large open-plan rectangular space, which included a bird aviary, a guinea pig hutch, and a built in playhouse. There was a mature tree with a semi-circle of tree stumps for balancing or sitting, surrounded by grass. The main outdoor equipment comprised a set of seriated movable boxes from large to small and various attachments for climbing and adding challenge, which included monkey bars. There was also fixed equipment: an interchangeable swing set, two balance bridges, a sandpit, and two sheds housing the smaller resources. In addition, there was a large built-in retractable sun umbrella, and built-in sun shades on the sandpit, swings, and deck to provide weather protection. Outside there was a mixture of textured surfaces including concrete, safety matting, bark, and grass. Children had unrestricted access to the outdoors with the exception of mat-times, meal times, the transition to school time, and when there were insufficient teacher-to-child ratios to offer both indoor and outdoor play.
Figure 9. The Sunrise Centre's outdoor space.

What Was the PAP Activity System Like at the Sunrise Centre?

Figure 10 (p. 96) is a representation of the PAP activity system at the Sunrise Centre during the week I attended to gather data. It provides the basis on which I present my discussion of the unique features of the PAP activity system operating at this centre while I was there.
Contradictions:

1. PD (lack of) vs. planning
2. Beliefs and values as rules vs. practices
3. Free play vs. structure
4. Regulations vs. design of outdoor area and planning
5. New bikes vs. bike rules
6. Teachers’ values vs. parent values on PAP

Figure 10. Model of the collective activity system at the Sunrise Centre in the PAP space.
The teachers at the Sunrise Centre were pursing three immediate objects in their PAP activity system in their work toward the outcome of “a quality PAP programme underpinned by Te Whāriki”. The teaching team expressed these objects as: self-review, the PAP programme, and parent education. In this section, I will describe each of these objects in turn, as teachers strove to advance each object mediated through other elements in the PAP activity system.

Self-review became an object to support the improvement and development of the PAP programme. For example, Lauren stated in her survey, “we all agree that this is an area that needs work. New ideas and equipment should be part of our programme planning” and “I think I need some new ideas to keep it exciting for everyone”. Danielle also responded in her survey that there were areas where improvements to the PAP programme could be made through self-review as a team. For example, she suggested, “PD that could help with new ideas and set-ups”, which was echoed by Karen’s survey response, “I need to ‘refresh’ my knowledge regarding facilitating physical activities outside”. Hence, the object of self-review for this team meant considering how they could enhance their PAP programme object, and overcome barriers constraining their progress. In order to advance the object of self-review, “self-review tools” (such as discussion, evaluation, and investigation) became an instrument to make informed decisions. Danielle and Hannah explained in the group interview:

  Danielle: there is always room for improvement we had to decide how we could overcome the things which were difficult to change

  Hannah: Yeah within what we already have in the daily running of the centre.

(Interview lines 7-11)
For many of the teachers PD was reflected in their survey responses as an instrument to enhance self-review; however, “PD (a lack of)” in the activity system reflected the team’s inability to access such support. Hannah wrote in her survey response, “there isn’t a great deal of physical play professional development out there”. Therefore, while teachers yearned for PD to support their self-review object they were unable to attain and utilise PD to advance the object, wherein PD (lack of) became a contradiction (see contradiction 1, Figure 10).

The centre had recently advanced their self-review object through the use of self-review tools, which resulted in the purchase of new bikes and scooters. These new resources were part of the instrument “planning for new ideas, equipment, and new activities”. Bikes were considered an important addition to strengthen children’s relationships between their home and centre environments, and to support the activity systems’ community focus of “children’s bike interests”. Hannah explained how the object of self-review was mediated through the instruments of self-review tools and planning, when she said in the interview, “we did see bikes as quite important because most of these kids have bikes outside of the centre, we thought it was important to have that kind of flow” (Interview lines 158-160). “Bike rules” then became a feature in the activity system, which teachers considered stemmed from “risk averse parents”. In advancing the self-review object, teachers contemplated how these bike rules could impact on their provision of the PAP programme object. Hannah explained in her survey, “rule: helmets on bikes. We are still deciding on this rule as a team. A child recently had a small bump when she fell off a bike. Mum insisted that she wears a helmet”. Later in the group interview Hannah highlighted the problematic nature of this rule, “how do you have four helmets that fit 24 kids? That’s the kind of dilemma we are facing” (Interview lines 175-176). As the teachers’ worked in advancing their self-review object through the instrument of planning for new ideas, equipment and new activities, the resulting bike rules
which stemmed from risk averse parents became a contradiction in the system (see contradiction 5, Figure 10).

While the teachers identified other new resources (alongside the bikes) would have been welcomed, the instrument of “storage and design of the outdoor area” was a constraint that the team considered was difficult to mitigate. For example, Danielle wrote in her survey, “I would like to purchase more equipment that promotes physical education. Unfortunately we don’t have the space to put it away in the evenings”. Faith felt similarly conflicted as she stated in her survey:

I want to purchase equipment that encourages and supports children’s physical development, e.g. climbing, crawling etc. where children could explore and use problem solving skills to challenge themselves physically and mentally. I would like hula-hoop’s and mats where children could tumble and roll. But with the limitation of space at the centre, too much equipment can’t be accommodated.

Through her survey, Karen clarified how the centre’s self-review object was being hindered by the instrument of storage and design of the outdoor area, which became a contradiction in the activity system. She explained, “the main barrier is play space, places to store more outdoor equipment .... By play space I mean the design and how it is set up”. In the group interview Danielle explained how the fixed equipment had to be carefully considered when adding or changing the activities, stating “we have to be wary because we have an [in-built] umbrella we have to be able to get up, the [movable] playground has to be in a really good position so we can actually open it” (Interview lines 243-245). The storage and design of the outdoor area was also influenced by the “regulations” acting as rules in the activity system. These dictated the amount of space required between the equipment, as Danielle described in
the group interview, “there’s got to be 1.5 [metres] between” (Interview line 253-254). Hence, these regulatory rules, and the fixed equipment in the design of the outdoor area, limited where the movable equipment could go, and was a contradiction in the system (see contradiction 4, Figure 10).

In advancing the self-review object, self-review tools (such as discussing and investigating solutions) were employed by the team to ameliorate the barrier of storage, and led them to adopt a new instrument. This new instrument, “information and integration of Playball©” was found to offer a solution where new ideas, equipment and activities could be provided by a coaching programme which supplied their own equipment. Faith wrote in Aidan’s portfolio about the successful implementation of the new instrument, “Every Friday, the children participate in a physical programme called Playball. The aim of Playball is to help improve basic movement skills, develop good listening skills and sportsmanship, they even bring the equipment” (Aidan’s Portfolio, 10/9/14). Here, Faith has highlighted how their advancement of the object of self-review, through self-review tools and the adoption of a new instrument, supported opportunities for valued learning outcomes in the PAP programme.

Stemming from the self-review object where improvements and barriers were discussed and ideas to overcome these were generated by the team, changes to the PAP programme object resulted. The teachers established that the provision of the PAP programme was an area that could be enhanced. They wanted more activities throughout the day which would stimulate and entice children to engage in PAP. Lauren described this object and why it was being worked on, in her survey, when she wrote, “we are a majority boys – and a fun environment is what is needed, with more activities throughout the day”. Karen also identified this as an
object when she responded in her survey, “I feel I could facilitate promoting outdoor activities more”. Both Hannah and Karen thought more challenging activities were needed, as Hannah stated in the interview, “it’s not as challenging as we would like” (Interview line, 208). In addition, Faith wanted to ensure that the PAP programme supported learning outcomes for children, as she explained in her survey, “I want the equipment and other sources of physical play to be purposeful with the aim of possible learning outcomes”. These responses from the teachers highlighted the PAP programme as an object being pursued collectively. To these teachers, the PAP programme object meant “increased activity opportunities throughout the day and a fun, stimulating, challenging environment purposed toward learning outcomes for children”. The PAP programme object was influenced by the division of labour responsibilities enacted through the “supervision policy” (as a rule), where one teacher was allocated to setting up the provision of the PAP programme where the “lead teacher outside worked independently”. The supervision policy stated:

- Outside teacher: supervises the outdoor area including deck (Supervision policy, 10/9/14).

The teacher who was rostered outside had autonomy to make independent decisions about the daily provision of the PAP programme, and setting up the “environment as the third teacher” (instrument).

Decisions made in the self-review object, through self-review tools, had resulted in the addition of Bikes and Playball© into the PAP programme object. Regulations which were found to constrain the design of the outdoor area in the self-review object were also found by the team to constrain the children’s engagement with the PAP programme object. For example, Karen stated in her survey, “we are bound by safety regulations that I feel restrict
‘child-initiated’ ideas/play”. As the teachers had identified earlier, one of their goals for the PAP programme object was supporting a fun, stimulating and challenging environment, and yet they felt “child-initiated activities” (in the community) were being constrained by regulations (as rules) which restricted the challenges available in the environment as the third teacher (instrument). The regulations (as rules) in the PAP activity system became a contradiction to the community and instrument elements which hindered the advancement of the PAP programme object (see contradiction 4, Figure 10).

Supporting the community’s child-initiated ideas/play, reflected the teachers’ beliefs and values which were centered on free play. This was enacted as a rule whereby “teachers’ beliefs and values prioritised free play and child-initiated ideas/play”, through the instruments of the environment as the third teacher and “teaching strategies” as they worked to advance the PAP programme object. Hannah explained in her survey, “we view the environment as the third teacher and believe it is important to set up and facilitate rich learning experiences for children both indoors and outdoors”. She placed a high priority on the importance of free play as it empowered children to learn and develop at their own pace. Hannah explained in her survey, “it gives them freedom, time and space and allows them to choose their own materials or equipment”. In her survey, Danielle identified her beliefs and values as influenced by Reggio Emilia and a free play philosophy. For example, she said, “I view the environment as the ‘third teacher’ and I like to find ways that continue to stimulate learning. Being physically active comes naturally to children. I believe that children learn in an environment that fosters play”. Faith also sought to provide a stimulating environment for children, writing in her survey, “setting up equipment that is age appropriate and challenges them physically, allows children to make their own choices”. Collectively, the teaching team whose beliefs and values prioritised free play and child-initiated ideas/play as a rule, was
undermined by the addition of Playball© and other “structured activities” (as instruments) in the PAP activity system. Structured activities included teacher-led games and indoor PAP included in mat-time activities. Danielle and Lauren explained in the group interview how structured and unstructured activities were offered in the PAP programme:

Danielle: like mat-times and then times when we are just free play, getting a group together to be involved in something. Just trying to think what else?

Lauren: Well we do it at mat-times with the songs and all that and we are making sure to get those quieter kids. There’s always a teacher that’s like come on, come hold my hand, come on let’s do it together and not leaving anyone out really unless they are fully not wanting to take part. (Interview lines 78-83).

The disparity between the rule (teachers’ beliefs and values prioritised free play and child-initiated ideas/play) and the instruments (information and integration of Playball©, and structured activities) led to a contradiction in the PAP activity system (see contradiction 3, Figure 10).

The object of parent education was prioritised in many of the teachers’ survey responses. The teachers commented that risk averse parents were a barrier to their role in promoting PAP, for example, Lauren responded “with parents there is a fear of being blamed if a child gets hurt”. Hannah wrote in her survey “As a paying client, parents expect early childhood centres to be a certain way. We need to provide the parents with all the information...they are often not on the same page when it comes to learning, playing, and beliefs”. Karen’s survey response also highlighted her perception that parents did not value PAP stating, “we have parents who don’t understand the value of rough and tumble play and they would prefer their
child be inside if it’s wet”. Hannah agreed, responding in her survey, “teachers live in a certain amount of fear about providing good physical play. By this I mean playing outside in the rain, climbing trees, making bike ramps etc”. For this teaching team, the object of parent education meant “making parents aware of the benefits of PAP and advocating for the rights of the child to have stimulating and challenging PAP experiences within their early childhood years”.

Karen and Hannah described in their surveys how the teaching team were “creating a strong centre culture on the value of outdoor play” which became a new rule, operationalised through the instrument “communicating the PAP philosophy at enrolment”, that advanced the object of parent education that they were working on. Hannah wrote,

> Having a strong team philosophy regarding physical play, and by providing parents with information regarding the centre from the time of enrolment. I think teachers often try and please parents too much and by doing so find their philosophy and personal beliefs compromised. We should be advocating for the child and teaching the parents valued ways of learning.

While Karen responded in her survey, “it all comes down to creating a strong centre culture about our values surrounding outdoor play”. This new rule and instrument generated by the teaching team sought to alleviate the tension generated by their perception that “parents placed little value on PAP”, and “parents were focused on academic and school readiness”, by advocating and communicating the rights of the child in experiencing PAP. During the interview the team discussed what they believed parents valued in the curriculum, leading to their perception that parents placed little value on PAP:
Hannah: The focus is probably more on fine motor and –

Danielle: fine motor, friendships-

Hannah: academia and that sort of thing isn’t it, more than physical (Interview lines 33-35).

Hannah: When parents are like ‘oh we want them to be sitting down writing blah blah’ well we are always like, well gross motor skills actually come before fine motor anyway so it’s important to be focusing on play and outdoor kind of activities (Interview lines 59-61).

In advancing parent education as an object, the teaching team sought to align their beliefs and values on the importance of PAP with parents which was a contradiction in the activity system (see contradiction 6, Figure 10).

In addition, parent education was being mediated through the information and integration of Playball© which became a new instrument developed as a result of the teachers’ work in advancing the object of self-review. Information was distributed to the parent community outlining the benefits of PAP, and the importance of challenge through sporting skills. Karen explained in her survey, “we started doing Playball where coaches use a variety of sports equipment to lay down a foundation of sporting skills”. Hannah added in the interview, “the parents really loved that” (Interview line 50). Parents supported the implementation of Playball© which was demonstrated through their financial contribution to ensure their child’s participation. Hannah indicated that the majority of children participated in the programme.
In their commitment to the object of educating parents and alleviating the tension of risk averse parents, and parents placing little value on PAP, further instruments (in addition to Playball©) were being utilised to advance the object. For example, Karen explained in her survey how “learning stories” were being used to provide “photos showing parents what we do and what children are learning, like resilience, self-awareness etc”. The “assessment, evaluation, and planning policy” at the Sunrise Centre guided the division of labour in “portfolio allocation” to progress their object of parent education. This policy stated that, “staff will endeavour to update the children’s portfolio once per month” (Assessment, evaluation, and planning policy, 10/9/14), confirmed by Danielle when she said, “each teacher does a page a month although sometimes they get behind”. Learning stories were an instrument positioned to advance the object of parent education, where teachers could communicate the value of challenging PAP experiences and the learning opportunities therein.

**Contradictions**

The analysis of the PAP activity system at the Sunrise Centre illuminated several contradictions (see Figure 10, p. 96). In this next section, I will illustrate how these contradictions were played out in the activity system at the time of my visit, advancing or hindering the immediate objects as teachers pursued their collective goals. These contradictions were the teachers’ inability to access PD, disparity between teachers’ beliefs and practice, free play and structured activities, regulations as a constraint, new bike rules, and disparity in teachers and parents perceived values of PAP. More broadly, I will discuss what these findings reveal in understanding the nature of PAP in city-based centres in New Zealand.
Teachers’ inability to access PD.

The teachers’ inability to access PD was in tension with planning for new ideas, equipment, and new activities and this contradiction affected their pursuit of the self-review goal. In their surveys, Faith, Karen, Lauren, and Danielle all identified their desire to attend PD to provide new ideas and initiatives as part of their work in the object of self-review to ensure the PAP programme was robust and diverse. For example, Karen wrote in her survey, “I need to refresh my knowledge regarding facilitating physical activities outside”. Several international studies have suggested that early childhood teachers face a lack of ideas and understanding of how to transfer movement encounters into learning opportunities (Gagen & Getchell, 2006; Helm & Boos, 1996; Martyniuk & Tucker, 2014; O’Connor & Temple, 2005; Vives-Rodriguez, 2005). One such Canadian study (Martyniuk & Tucker, 2014) collected data from 1,113 early childhood diploma course students. The authors identified several factors deemed necessary by teachers to support a quality PAP programme. These included age appropriate ideas for games and activities, a need for activity opportunities for various weather climates, and the availability of physical activity workshops. In my study, Hannah highlighted targeted physical activity PD opportunities as difficult to source, which inhibited their work to mediate their self-review object. These findings revealed within my study suggest that in New Zealand, just as in Canada, there are teachers who hanker for support in offering a quality PAP programme. There is ample international evidence to support the notion that children’s physical development is greatly influenced by teachers’ access to pre-service and in-service training opportunities in the physical domain (Dickinson et al., 2010; Helm & Boos, 1996; Louie & Chan, 2003; Martyniuk & Tucker; Suthers & Larkin, 1996; Vives Rodriguez, 2005). At the Sunrise Centre, a contradiction was created between the
teachers and the instruments: PD (lack of), and planning for new ideas, equipment and new activities, which inhibited their advancement of the self-review object (see contradiction 1, Figure 10).

**Disparity between teachers’ beliefs and practice.**

Within the division of labour, teachers were autonomous in how they set up the PAP environment. When in the role of lead teacher in the outdoor area, they made independent decisions in advancing the object of the PAP programme. In the following example, Danielle held the responsibilities of the lead teacher outside; she had her own tacit rules based on her beliefs and values which she communicated to the children:

**“Feeling warm or cold”**

“Take your shoes and socks off if you want to” says Danielle as she dries the slide.

“Can we get the bikes out?” asks Todd. “Yes, I’ll just get the 4 bikes out and we just have to share those ones don’t we”. “We’ll get some other stuff out too” says Danielle. Danielle gets out the cones and road signs. “What can we do with these?” Flynn asks. “Whatever you want to do” replies Danielle. “We can make a road with these” says Tali and he takes one in each hand as he tries to steer his bike. Danielle gets chalk to draw a road, and she draws a line around the area. Four boys on bikes drive on the road, Tammy and Sam set up the cones on the path. “You can do whatever you want with them” reminds Danielle, “I’ve got some more if you want them” and she gets more (cones) out of the shed. She also sets out construction blocks and two large diggers by the road. (Observation 23).
At 1:30 Danielle says, “Feel free to take something off, if you’ve got a t-shirt in your bag, it’s very hot” (Observation 24).

However 15 minutes later Danielle goes inside and Faith is the teacher outside. “Where are your shoes, you need shoes on and another jumper. I feel cold, it’s too cold out here” says Faith, “I’ve told you if you don’t put on your shoes and a jumper you need to play inside” (Observation 25).

At 2:00 a group of children have started using the cones as trumpets and in a game where they stand them up and then kick them over. “That’s not what you do with them, they are for making a road” says Faith, “come and help me” she says and models setting them back out as a road. The children are still intent on using them for trumpets and for kicking, until Faith asks Jason, “Hey Jason, can you collect up all the cones for me” and they are put away in the shed. (Observation 26).

When Faith and Danielle swapped their supervisory positions the children encountered a different set of tacit rules. Here we can see how the children were impacted in their engagement with the PAP programme when the rule in the activity system (teachers’ beliefs and values prioritised free play and child-initiated ideas/play) was undermined by teachers’ responses, for example, their feelings of warmth or cold outside. Danielle’s rule encouraged children to self-monitor their comfort and to adjust their clothing accordingly, whereas Faith demanded that children put on more clothes in order to access the outdoors. A contradiction is generated in this activity system when individual teachers are practicing in contrast to the rule of the activity system, impacting on the children’s engagement with PAP (see contradiction 2, Figure 10).
The misalignment of teachers’ actions with their beliefs and values in the outdoor environment found in this study correspond to those found in both international and New Zealand studies. In Maynard and Waters’ (2007) Welsh study, teachers were found to be either positively or negatively influenced by outdoor weather conditions. These preferences were reflected through their practice in offering affordances or limitations on children’s outdoor access. In addition, Greenfield (2007), in her New Zealand study on children’s and adults’ perceptions of being outside, suggested teachers’ individual perspectives would directly impact what happened for children in the environment. There is an array of New Zealand studies that have argued that early childhood teachers do not share the same beliefs, theories, and attitudes (Alvestad et al., 2009; Foote, 2004; Hedges & Cullen, 2005; Jordan, 2008; Mitchell, 2007; Nuttall, 2003). Findings from my study revealed that all teachers within the collective activity system placed great value on children learning through free play where children initiated their own play. This, however, was not consistently observed in practice.

**Free play and structured activities.**

In contrast to their strongly held collective beliefs which prioritised free play, three teachers within the team determined that the addition of structured activities operationalised the advancement of the PAP programme, resulting in a contradiction (see contradiction 3, Figure 10). In their survey responses, these teachers described how they juxtaposed free play and structure into their teaching pedagogy. Hannah wrote, “during our day there is a balance of structured teaching and free play. I believe it is all about finding a balance”. Karen described her support for the addition of structured activities, “I feel there is a need for structured times such as mat-times, eating times”. In the group interview, Lauren revealed
how she drew free play and structure into her teaching pedagogy when she said, “sensing when we need to be right in there with the kids and when we need to step back and just let them do their own thing” (Interview lines 272-273). To advance the object of the PAP programme, the teachers had decided to add structured activities into their curriculum provision. They introduced Playball© once a week and indoor PAP during mat-times each day.

The addition of structured activities meant that Faith and Danielle (as part of the collective teaching team) had to circumvent their beliefs to some extent, in order to expand their provision of PAP into both free play and structured activity times. This suggests that in a collective situation, these teachers prioritised the provision of the PAP programme that appeared unified in praxis, albeit that they held different beliefs. Such an example of organisational culture in shaping how teachers behave within the environment was found in Gibbons’ (2005) New Zealand study, where individual teachers were found to align their beliefs to those of the collective. I was able to observe both Faith and Danielle delivering aspects of structured teaching; for example, when Faith provided structured physical activities during mat-time indoors, “hands in the air, rock-a-bye your bear” sings Faith and all the children participate and follow the actions (Observation 70). While these two instruments (Playball© and structured activities) were in contradiction with the rule (which prioritised free play), they were also considered to advance the PAP programme object.

Earlier in the chapter I summarised, from the teachers’ responses, what the PAP programme object meant to this teaching team, which they expressed as: increased activity opportunities throughout the day and a fun, stimulating, challenging environment purposed toward learning
outcomes for children. In a learning story for Ashton, Danielle wrote about his experiences with Playball©, and the learning that followed. Danielle highlighted how the addition of this new instrument operationalised the teaching teams’ goals for the PAP programme when she wrote, “Ashton has taken a shine to Playball. He has been learning new ball skills and basic movement skills, Ashton has even managed to get player of the day due to his positive attitude and work ethic” (Ashton’s portfolio, 10/9/14). The addition of Playball© and structured activities, in conjunction with their free play provision of curriculum, was found by the teaching team to support valued learning opportunities for the children attending the Sunrise Centre. These findings add to other New Zealand and international evidence which identified the value of both free play and structured approaches in supporting the development of skills, knowledge, and attitudes where learning dispositions and working theories were enhanced (Hussain, 2011; Mawson, 2011; Vazou et al., 2016). Therefore, the teaching team found justification in undermining their beliefs and values in free play in order to expand their curriculum. These teachers found merit in including Playball© and structured activity sessions to advance their goals for the PAP programme.

**Regulations as a constraint.**

In their work on the object of self-review, regulations (as a rule) were found to constrain the design of the outdoor area and planning for new ideas, equipment and activities (as instruments) which generated a contradiction (see contradiction 4, Figure 10). This was because the regulations impacted on where the movable equipment (and new activities) could be positioned in relation to the fixed equipment, which the teachers discussed during the group interview:
Hannah: Yesterday we had the boxes in the grass with three kinds of planks, so it’s all movable, it’s just that obviously there’s got to be 1.5 between-

Danielle: You always have to think about that too, where they’re placed, especially that sandpit… (Interview lines 245-255).

In addition, in their work in advancing the PAP programme, regulations were found to restrict child-initiated play/ideas when children strove to arrange their own challenges and ideas utilising the instrument of the environment as the third teacher (see contradiction 4, Figure 10). I observed such a contradiction which occurred when Harry positioned a plank to lower up and down on his spaceship outside. As it was too close to the monkey bars and blocking the 1.5 metre regulatory clearway between equipment it had to be moved which interrupted the flow of the game, and impinged on Harry’s idea:

“Hold it steady” says Jason, “send the blasters” says Sam and he throws down the ball. Harry takes the plank up onto the blue box, “this kicks anybody naughty that creeps onto the spaceship. It also drops when you land the spaceship, like this” he says. “You put this in space and then we break the moon and put it in here” says Jason with a container. “You will have to move that plank Harry, it can’t be that close to the monkey bars” says Hannah. (Observation 65).

Regulations were revealed as a contradiction between the instrument, rules, and community elements of the PAP activity system. The regulations were found to hinder the advancement of the self-review and PAP programme objects, and became a source of frustration to teachers.
Through her survey Hannah expressed this sense of frustration with the regulations when she wrote, “safety regulations need to be less stringent”. She also discussed how centre environments had become “fake” in comparison to children’s backyards and community spaces where fewer restrictions were in place. Hannah said in the group interview, “…they are so fake compared to what children would do on the weekend in their own back yard. I think it’s kind of sad” (Interview lines 222-224). This frustration over regulatory constraints also became apparent within the regular teaching day for teachers as they strove to increase challenge within their environment. For example, on the last day of my observations at the Sunrise Centre, Danielle had set up a ramp activity that added a difficult challenge to the outdoor environment. Unfortunately, the letterbox (which was a fixed structure outside the playhouse) made it impossible to offer this challenge while adhering to the safety regulations:

Danielle sets up the ramps and planks as the children watch, “the letterbox is in the way” she says to them as she stops to contemplate this dilemma (it was less than 1.5 metres away). (Observation, 85)

In Fenech and Sumsion’s (2007) Australian study, the majority of early childhood teachers found regulations to be a constraint that eroded their common sense and professional wisdom. These observations of Danielle and Hannah and their comments are consistent with several studies which suggest that regulations may conflict with teachers professional judgments when facilitating challenge and risk (Davis, 2009; Duhn, 2012; Stephenson 2003). For these teachers at the Sunrise Centre, regulations were considered to be too stringent, leading to feelings of frustration as they pursued their objects.
Teachers considered regulations an impediment to creating a challenging and diverse PAP programme which remained largely outside of their control. There are several Australian and New Zealand studies which support Hannah’s view that, “safety stringency doesn’t support us or back us in this area” in facilitating challenge and contact with natural features (such as tree climbing) in the environment (Coleman & Dyment, 2013; Davis, 2009; Duhn, 2012; Little & Sweller, 2014; Stephenson, 2003). The conclusions drawn from these studies and my study highlight how regulations conflicted with teachers’ professional judgments and eroded their initiative and common sense as they strove to offer a challenging and varied environment.

In order to explore this concept of safety regulations as a constraint expressed by Hannah in the group interview as, “it’s the whole safety regulations of what’s expected of early childhood centres, what we can and cannot have” (Interview lines 213-214), I provide an overview of the regulations. The Education (Early Childhood Services) Regulations 2008 referred to by the teachers as the regulations, require services to have premises and facilities that support safety and health practices as outlined in Regulation 45(1) (a)(ii) (Ministry of Education, 2008). The PF5 licensing criterion establishes that it is the responsibility of service providers to demonstrate that all equipment structures, equipment, and surfacing are safe. In April 2005, a new standard for playground equipment came into effect for all licensed early childhood education services. To help teachers understand the technical aspects of this standard, the Ministry of Education sponsored the production of a handbook which explained the requirements and implications for early childhood centres such as fall zones, equipment spacing, and access ways (Standards New Zealand, 2006). Teachers are required to uphold, review, and to immediately address any safety risks against standard NZS5828:2004 outlined by the handbook. All equipment, including junk equipment (for
example cable reels, milk crates, and tyres) added to the environment to promote activity, is required to meet the standard (Standards New Zealand, 2006). The findings of the current study reveal that Hannah considered that many of these restrictions would not apply to a child engaged in their home or wider community environments (such as gardens or parks), where children are expected to develop skills in managing aspects of their own safety. In contrast, early childhood centre environments were perceived as becoming artificial in response to meeting these safety regulatory requirements.

The findings of this study reveal teachers’ perceptions that the regulations are unrealistic and misaligned with children’s authentic experiences in the wider world, particularly as early childhood centres are designed to be optimal learning environments allowing teachers to offer a wide range of experiences including areas of challenge and risk (Fenech & Sumsion, 2007; Greenfield, 2007, 2010). The findings of my research reveal the regulations as a contradiction, hindering the teachers’ advancement of the objects in their activity system toward the outcome of a quality PAP programme underpinned by Te Whāriki.

**New bike rules.**

Additional bikes and scooters had recently been purchased at the centre as the instrument of planning for new ideas, equipment, and activities was operationalised to support the children’s bike interests between the centre and home environments. The bikes had coordinated advancement of both objects of self-review and the PAP programme. However, when a parent raised the question to Hannah, “should bike helmets be used on the concrete?”, teachers identified a tension in the system, because historically wearing bike helmets had not
been valued as part of the centre culture (see contradiction 5, Figure 10). In the group interview, teachers expressed a reluctance to implement a helmet rule in response to risk averse parents, and they questioned why helmets were needed:

Lauren: there hasn’t been any reason to-

Hannah: why?

Lauren: why should we use them?

Hannah: And I’ve been here for 7 years and we have always had bikes and they have never had to wear them.

Karen: and parents see their children on their bikes, on the bikes that we have here and they don’t stop us and say anything.

Hannah: No we haven’t yet, but maybe that’s because we have never had someone say anything that we have never done it. And now all of a sudden one parent has, maybe it’s time for us to do it. (Interview lines 167-202).

In considering the implications of bike rules (as a new rule) teachers raised concerns about the practicalities of adjusting helmets to fit each child which was discussed in the group interview:

Karen: We need smaller ones

Hannah: We did have some but they weren’t fitting the kids and like every head is different (Interview lines 174-176).

New Zealand bike helmet laws, came into effect in 1994, applies to bike riders of all ages (although it excludes tricycles). Part 11 of the Land Transport (Road User) Rule 2004 (SR 2004/427) states, “a person must not ride, or be carried on a road unless the person is wearing
a safety helmet of an approved standard that is securely fastened” (Ministry of Transport, 2004). New Zealand and Australia are the only countries that mandate national bike helmet laws across all ages with a helmet wearing rate in New Zealand consistently around 92% (Clarke, 2012). In the group interview, Danielle and Hannah expressed their uncertainty about helmet laws and how to relate them to the early childhood environment:

Hannah: We’ve got the grass, but there’s the concrete too.

Danielle: so we are kind of… yeah it’s a bit of a hard position (Interview lines 186 &193).

While this bike helmet legislation specifically relates to on-road usage, teachers were unsure how they should support safe practices with children riding on the concrete at the Sunrise Centre.

Historically at the centre, children had utilised the bikes on the grass, safety surfacing, and the concrete. However, following comments made by a safety review officer, a new rule had been initiated, as Hannah explained in her survey:

Rule-Bikes need to stay on the concrete. We were told that if a child left a bike under the climbing equipment and a child fell from a height onto the bike, they would impale themselves. Where this might be a true outcome, it has not yet happened and I have worked here for 7 years.

Hannah’s inference was that safety in the outdoor environment had become a “better to be cautious” mantra where teachers had to cater to a worst case scenario (Wyver et al., 2010). Having ameliorated this safety concern raised by the review officer, where the bikes now remained on the concrete, this had created a different safety concern raised by a parent.
Teachers were now required to consider how to mitigate the possibility of a head injury from falling off a bike onto concrete.

Currently, the Ministry of Education does not offer guidelines for early childhood teachers to manage this tension over helmet rules on concrete surfacing, and therefore remains at the discretion of centres, in consultation with their community. At the conclusion of my week at the Sunrise Centre, the team had overcome this tension in order to advance the object of self-review and the PAP programme. Teachers had agreed that all children would wear bike helmets, and smaller, easier to adjust helmets had been purchased. The object of self-review was advanced through the purchase of bikes, scooters, helmets, and discussions and agreement on bike rules. These were coordinated toward improving the PAP programme where bikes were highlighted as a significant interest of the children.

**Disparity in teachers’ and parents’ values on PAP.**

In order to advance the object of parent education, teachers had to overcome the contradiction between the disparity in teachers’ and parents’ perceived values on PAP (see contradiction 6, Figure 10). Teachers had begun to develop and implement a range of instruments to ensure that parents had knowledge about the importance of physical activity and its role within the curriculum. These included information and integration of Playball®, learning stories and communicating the PAP philosophy at enrolment, in their work in educating parents (object). In addition, rules such as creating a strong centre culture on the value of outdoor play, and the assessment, evaluation, and planning policy, were utilised to mediate the object. Several studies point to parent education, enhancing centre policies and philosophy in overcoming
barriers, to the provision of PAP (Chow & Humbert, 2014; Mikkelsen, 2011). The relationship between policies, attitudes, and practices are important in expressing the individual and collective intentions and values of the centre to the wider community (Mikkelsen, 2011). At the Sunrise Centre teachers had begun to clearly articulate their intentions of their new rule to advance the object of parent education. Hannah explained in her survey how a PD reading from an inspirational speaker had supported her articulation of the PAP philosophy: “We tell a visiting parent that we play out in the pouring rain and if the parent isn’t happy or doesn’t want their child participating in that we tell them to go and look at the centre down the road”. Teachers communicated their collective beliefs and values through their new rule and had established a way to ensure that parents were aware of their stance in advocating children’s PAP experiences at the time of enrolment.

The findings from the Sunrise Centre revealed that teachers perceived parents to be more focused on school readiness, and therefore placed a low priority on PAP, a concept which has been previously investigated (Brown et al., 2009; Maynard & Waters, 2007). This points to a changing societal view surrounding the decreased value of physical activity in the early years (Carson, 2001; Stork & Sanders, 2008), and was a view that the team were working at displacing in their activity system. One initiative the team had incorporated to displace their perception that parents’ placed a limited value on physical activity and to increase their knowledge of the importance of PAP, was to offer the instrument Playball©. Having read the information provided by Playball©, parents readily supported this initiative which advanced parent education and led to new and challenging activities available to children in the PAP programme object.
What Conclusions Can I Draw about the Nature of PAP at This Centre?

The teachers at the Sunrise Centre were pursuing objects of self-review, the PAP programme, and parent education, within their PAP activity system at the time of my visit. During their work to advance each of these objects, instruments, rules, and community elements of the PAP activity system were found to be in tension, revealing a significant number of contradictions. In overcoming some of these contradictions, new instruments and rules were created in the activity system which assisted the team in realising their objects. However, not all contradictions could be overcome and the regulations remained an impediment to the teachers’ work in their activity system objects of self-review and the PAP programme. In the following section, I present my conclusions from the case study analysis, advancing an understanding of the nature of PAP in New Zealand early childhood education.

For this team of teachers the self-review object meant: considering how they could enhance their PAP programme and overcome barriers constraining their progress (as previously mentioned). In order to advance this object, they employed self-review tools which included discussion and evaluation of their existing programme and resources. PD was an instrument for which the team sought to stimulate new ideas, however, a lack of available PD became a contradiction which impeded their self-review object. Additional bikes were seen as a priority in supporting the children’s bike interests and new bikes were added to the programme through the instrument of planning for new ideas, equipment, and new activities. However, a contradiction occurred when bike rules had to be negotiated through self-review due to parent safety concerns. Self-review tools were used to overcome this contradiction when the teaching team decided that children would wear bike helmets, revealing a success in
the activity system. Even though bikes had been added, the limited storage capacity and design of the outdoor area where regulations constrained the placement of new activities impeded the addition of other new resources. This contradiction was overcome through the new instrument Playball© where the PAP equipment was supplied and the need for storage was removed, providing a success in advancing the self-review object.

The PAP programme object was advanced as a result of the teachers’ work on their self-review object. Bikes and Playball© had been added as new instruments, however, the teachers wanted to further realise their PAP programme object goal which they expressed as: increased activity opportunities throughout the day, with a fun, stimulating, challenging environment purposed toward learning outcomes for children (as previously mentioned). Regulations were found to be a rule that constrained this object when the children were restricted in their child-initiated ideas when interacting with the environment as a third teacher. Teachers were similarly constrained in the resourcing of the environment when regulations restricted the placement of movable equipment amongst the fixed structures, and existing playground design. Regulations continued to be a rule, acting as a contradiction to the PAP programme object; a rule which teachers considered was too stringent, and hindered the advancement of the PAP programme object. In addition, when there was disparity between teachers’ beliefs, values and practices, child-initiated ideas/play were impeded, evidenced in the vignette “Feeling warm or cold”. Subsequently, when the new instruments of structured activities and Playball© were added into the activity system, the same contradiction was evident. However, the capacity of these new instruments to advance the centre’s PAP programme object became the catalyst for these teachers to expand their beliefs and values to include structure, even though their rule (which prioritised free play) was undermined. The activity system analysis revealed that when the teachers worked as a
collective, some teachers had to circumvent their beliefs and values in favour of providing a unified provision of curriculum. Through this unified provision, and the undermining of the centre’s rule prioritising free play, this teaching team expanded their PAP programme to include both free play and structured activities. This provided a success in advancing their PAP programme object, where they were able to facilitate valued learning outcomes for children. There are synergies between these findings where teachers were using structured and unstructured activities to promote PAP and those of another New Zealand study where valuable learning outcomes also resulted from both free play and teacher-led activity in the PAP programme (Hussain, 2011). A curriculum which provides diverse learning opportunities encompassing both the familiar and unfamiliar empowers children to accommodate and assimilate new concepts (McNaughton, 2002). Such experiences were reflected in the Sunrise Centre’s PAP activity system through both free play and structured activities.

The teachers at the Sunrise Centre expressed their parent education object as: making parents aware of the benefits of PAP and advocating for the rights of the child to have stimulating and challenging PAP experiences (as previously mentioned). The new rule, to create a strong centre culture on the value of outdoor play, operationalised through the new instrument of communicating their PAP philosophy at the time of enrolment, advanced the object. Teachers sought to relieve the tension where they perceived parents placed little value on PAP and prioritised school readiness through the instruments of information and integration of Playball© and learning stories. These instruments which communicated the value of PAP led to the advancement of parent education. Parents who were perceived as placing little value on PAP, financially supported the implementation of Playball©, demonstrating a change in their perceptions. These findings are consistent with several international studies.
which suggested parents placed little value on PAP, rather, prioritising academic skills perceived to position children toward greater school success (Brown et al., 2009; Carson, 2001; Maynard & Waters, 2007; Stork & Sanders, 2008). At the Sunrise Centre, their efforts to change these perceptions, and increase parents’ awareness of the value of PAP were a success in their activity system.

This case study, which reports the findings and discussion of the PAP activity system at the Sunrise Centre, exemplifies a large number of contradictions. These became evident as the teaching team developed new rules and instruments into their PAP activity system in the pursuit of their objects. These contradictions occurred between the interactions of the instruments, rules, and community elements of the PAP activity system at the Sunrise Centre. In most cases, these contradictions were overcome, providing successes for the teachers in achieving their objects of self-review, the PAP programme, and parent education. These teachers strongly advocated for the rights of the child in striving to achieve the outcome of a quality PAP programme underpinned by *Te Whāriki* (Ministry of Education, 1996), through each of their objects. The image of the child held by the teaching team has been considered as central to supporting quality PAP experiences (Greenfield, 2004; United Nations, 1989). The image of the child held by the teachers at the Sunrise Centre led to positive changes for children’s learning outcomes expressed through their work in their objects. The CHAT analysis revealed that tensions and contradictions fueled the evolution of the activity system at the Sunrise Centre. Barab, Barnett, Yamagata-Lynch, Squire and Keating (2002) have similarly reflected on the importance of recognising contradictions to progress learning programmes, and have stated:
In building and supporting the continual unfolding of the activity system designed to support learning, educators need to recognise and harness systemic contradictions, identify how they affect the classroom culture, and especially learning goals, balance their influence, minimize potentially damaging conflicts, and allow the system to evolve. (p. 104)

The teachers’ work in recognising and responding to the contradictions in their PAP activity system are strong indicators of teachers striving to achieve a quality programme, as demonstrated in these findings at the Sunrise Centre.
Chapter Five

A Case Study of PAP at the Pastel Centre

In this chapter, I introduce the Pastel Centre and describe the activity system of PAP being enacted at the time of my visit. I discuss how teachers were working to achieve the objects of “self-review”, “the PAP programme”, and “parent education”. The analysis revealed four contradictions during the teachers’ work in the objects: teachers’ beliefs and values were misaligned with regulations, incongruity of teachers’ beliefs and values with Playball©, teachers and parents had different risk tolerances, and teachers’ reported parents held different values regarding PAP. I discuss how each of these contradictions was working to impede or advance the objects in this PAP activity system. Then, I describe how the system and its engagement with planning lead to success in the attainment of the self-review and PAP programme objects. I describe how instruments were utilised by the teaching team to strengthen the activity system and enhance the nature of PAP. Finally, I discuss the ways in which this case study of the PAP activity system at the Pastel Centre advances an understanding of the nature of PAP in New Zealand early childhood education.

An Introduction to the Pastel Centre

The Pastel Centre was privately owned and licensed for 34 children, operating three programmes: 3 ½- to 4-year-olds attended Monday, Wednesday, and Friday from 8:30 a.m. to 12:45 p.m., the 4-year-olds extended the day to a 2:30 p.m. finish; and the 2- to 3-year-olds
attended on Tuesday and Thursday from 8:30 a.m. to 12:45 p.m. Three full time teachers worked from 8:00 a.m. to 4:00 p.m. daily. Across my three days of observations the number of children attending was 25 in the 2- to 3-year-old programme and 28 in the 3 ½- to 4-year-old programme. A total of seventeen 4-year-olds stayed for the extended day. The majority of the children enrolled were New Zealand European (70%) with 8% Māori, 4% Chinese, 2% Indian, and 16% of other ethnicities, such as Dutch and Japanese.

Children accessed the outdoor area (see Figure 11, p. 128) between 8:30 a.m. and 12:00 p.m. through doors directly off the main play areas. A deck overlooked the sandpit and grass backyard which was on a lower level accessed by wooden stairs. The deck was utilised for an array of activities including carpentry and water play. The rectangular sandpit was at the same level as the deck and could be seen through the glass balustrade. The children accessed the sandpit from the lawn by four wooden steps. On the grass were a climbing dome and a fixed wooden play area that included a playhouse (stylised as a traditional Māori whare/house), fireman’s pole, and climbing activities that were changeable. A mud pit (used as a sensory area) adjoined a fenced vegetable garden. The teachers explained that the addition of the mud pit had reduced the outdoor space. Therefore, they had removed the three movable boxes which children utilised for climbing, and jumping off, for that term.
The Distinguishing Features of the Pastel Centre’s PAP Activity System

Figure 12 (p. 129) provides a representation of the Pastel Centre’s PAP activity system during the time I was data gathering. In the next section, I will describe each element of the system and how they were working to advance or impede the objects of self-review, the PAP programme, and parent education during my time at this early childhood centre.
Contradiction:

1. Teachers’ beliefs and values vs. regulations
2. Teachers’ beliefs and values vs. Playball
3. Teachers’ risk tolerance vs. parent risk tolerance
4. Teachers’ values vs. parent values on PAP

Figure 12. Model of a collective activity system at the Pastel Centre in the PAP space.
The system’s outcome, expressed as “a quality PAP programme underpinned by *Te Whāriki*”, was being pursued collectively through the immediate objects of: self review, parent education, and the PAP programme. This section describes what each of these objects meant to the teachers and illuminates how the teachers were working to progress these objects during the data gathering period.

Self-review became an object in the activity system when a number of companies approached the Pastel Centre to offer external PAP coaching programmes. In the group interview, Nina described how the self-review object had eventuated:

> We had quite a few companies approaching us to run physical programmes here at the kindy. We had My Gym, Playball, that was only two, there was someone else as well, there are a lot of programmes out there and parents talked about that. (Interview lines 15-17)

In order to understand parents’ expectations, a new instrument of “self-review tools” was integrated into the activity system. These self-review tools included a survey to parents and a discussion and evaluation of external coaching programmes by the teaching team, to decide what value could be added. In the group interview, Nina described how these self-review tools were developed and utilised by the team to inform their decision making process:

> So we did a mini survey to parents about whether they were interested in that sort of thing, what they were willing to pay, and what their expectations were. Which led us to self-review, what are we doing? Could we do it better? (Interview lines 15-24)
Hence, the self-review object was prioritised in the PAP activity system. The teaching team regarded this object in terms of “critiquing and evaluating their PAP programme and investigating ways they could make improvements”.

To progress self-review, the team had sought to evaluate their existing PAP programme. In their survey responses, Nina and Diane identified some questions which were a focal point of their evaluation. For example, Nina wrote, “are there enough objects/fixtures to provide challenge to our children’s physical development? Do we support children with the movable equipment we provide?” In her survey response Diane added a further question which formed their critique, “whether there is enough variety in the planning and facilitation of physical play?” The team concluded that the limited nature of their “space and equipment” had become a contradiction, hindering their work on the self-review object. Nina explained in her survey, “we want to maximise development [of the PAP programme] within our limits of equipment and space”. In order to advance the object of self-review and to alleviate the constraint of limited space and equipment (as an instrument), “planning” was operationalised in the activity system. Diane explained in the group interview how planning was used to mediate the object of self-review to mitigate the constraint of space: “we’ve started bringing things inside as well like the balance beam” (Interview lines 108-109), and “we are aware of not overcrowding the environment. We try and choose something that’s a focus at the moment” (Interview lines 167-168). I was able to observe self-review being advanced through planning when Diane arranged the outdoor environment, as she explained, “because I’ve set up a physical activity in the sandpit there is more room on the grass for the stilts or moonhoppers with more room to move” (Purposefully planned activity, 24/9/14).
In addition, self-review was being advanced through their decisions to introduce new instruments. For example, “Playball©” had been made available once a week outside the centre’s operating hours, and the teachers had engaged in “PD” surrounding PAP. A perceptual motor programme workshop to develop children’s physical skill development had been attended by them all. As a result of this new instrument PD, planning had been expanded to include a weekly planned PAP focus, which Penny and Nina explained during the group interview:

Penny: Every week in our planning we’ve been trying to include a specific aspect to our outdoor setup. So one week, the focus might be balance, the next week crawling-

(Interview lines 8-19)

Nina: There were two goals [from the PD], one was to have an activity each week and the other was to set up an activity card box, we’ll develop that into our own in-house resource. (Interview lines 29-33)

PD had also led to other expansions in planning which the teachers described during the group interview:

Penny: In our planning meetings.

Nina: Recently we have been planning a focus.

Helen: So you plan each Friday?

Nina: But then with our programming system: notice, recognise, respond if something had happened on the Monday – there had been a lot of jumping, that teacher is likely to set it up again on the Wednesday we don’t necessarily wait until the following week. So it is kind of on the go. (Interview lines 133-139)
The scope of the planning instrument had become wider to include the addition of daily and weekly planning meetings, changes to planning documentation, and a weekly perceptual motor programme focus, all being used by teachers in their work in advancing the object of self-review.

Self-review was also advanced through the up-take of new “teaching strategies and the teacher tool kit” which stemmed from PD. Techniques used by teachers in their daily practice to support the advancement of the PAP programme were displayed in the centre as a poster entitled: Teacher Tool Kit, and included: “demonstrating, instructing, listening, modelling, praising, facilitating, questioning, describing, singing, feedback, encouraging, recalling, reading, suggesting, telling” (Wall display, 26/9/14). The teachers’ thinking and learning about the PAP programme through their work in the self-review object had led to the development of several other new instruments, and some of them became new rules. An example was the collaborative treaty which encouraged respectful practice and positive behaviours, for instance, stating, “We have kind hands at kindy. We look after ourselves...wearing our hats outside and walking when we are inside” (Treaty, 26/9/14). This new collaborative treaty rule replaced the “Golden rules” which were formally part of the outdoor environment policy to support safe play.

When the self-review object was first prioritised in the PAP activity system, self-review tools were utilised to gain forward momentum. These aided the teaching team to develop an in-depth understanding of both the teachers’ and parents’ aspirations for the PAP programme at the Pastel Centre. Stemming from these findings, and what was revealed within the parent
survey responses, was an awareness that parent education was a further object of priority in their activity system. In the next section, I will discuss the object of parent education.

The teachers’ work in the object of parent education began when the survey response signalled that parents appeared unaware of the value of PAP. Nina explained in the group interview, “a lot of them [parents] were saying that they want their focus on the pre-literacy, the more formalised inside thing... and an unawareness of the importance of physical development” (Interview lines 61-65). Hence, the realisation that “parents valued academic skills” and “placed a low priority on PAP” became the catalyst for prioritising parent education. For this team the object of parent education meant “increasing parents’ understanding of the role of PAP within a holistic early childhood curriculum leading to valued learning outcomes for children”.

In order to progress this understanding and advance the object of parent education the instrument of planning was operationalised. I observed that the daily notice, recognise, and respond document (see Figure 13, p. 135) which included photographs (omitted in this example) was displayed for parents on the noticeboard and on the centre’s website. In this way, planning was a visual tool being used to advance the object of parent education. Valued learning outcomes resulting from PAP were illuminated through the strands and goals of Te Whāriki (Ministry of Education, 1996). Such planning practices reified teachers’ beliefs and values surrounding the importance of PAP grounded in sociocultural theory. Their beliefs and values regarding the importance of PAP within the curriculum were communicated to parents through these planning processes.
Notice:
- Following on from the bus created by the children last week, a bus role play was set up on the deck.
- A water trough activity was set up on the beautiful sunny deck this morning.
- A balancing challenge was set up outside this morning.

Recognise:
- The children had a great time role playing as bus driver and passengers, singing the Wheels On The Bus song and listening to a bus story as they rode along in the sunshine. Exploration Goal 1- Children develop increasing confidence and a repertoire for pretend or dramatic play.
- It felt so summery as we explored pouring, water wheels and water funnels again for the first time since winter. The water trough was a hive of activity! Exploration Goal 4- Children develop an understanding of the nature and properties of a range of substances, such as water.
- The children actively explored the challenge, climbing on and off the plank and balancing on the tyres.

Respond:
- We will set up the bus role play again.
- Fingers crossed, we will have water play again soon!
- Our focus on balance will continue this week.

Figure 13. Example of the planning board display.

In advancing the object of parent education, the division of labour element was used to operationalise planning. “Teachers planned for their allocated children” through the programme policy (as a rule within “other policies”), where it stated:

- Children are assigned a key teacher group
- Teachers monitor the portfolios of their key children to ensure their learning is being documented.
Teachers meet with the whanau (family) of the key groups to discuss the child’s progress (Programme policy, 26/9/14).

“Discussions with parents” became an instrument to operationalise this rule, where the object of parent education could be advanced. These discussions not only communicated learning and development progress, they were an opportunity to allay parent’s safety fears given that the “outdoor environment had built-in challenges and risk” like the fireman’s pole. Therefore, discussions with parents also sought to relieve the tension in the activity system where a contradiction existed between the community and instruments, whereby “parents were apprehensive over children’s safety” and the outdoor environment had built-in challenge and risk. I will consider more thoroughly how this contradiction affected the activity system later in this chapter.

In the teachers’ work in advancing parent education, information provided within the new instrument Playball© was consistent with the activity system analysis at the Sunrise Centre in the previous case study. Playball© was utilised to alleviate the contradiction between teachers’ beliefs and values surrounding the importance of PAP and the community where parents placed a low priority on PAP. However, in relieving one tension, Playball© was found to have generated another when outsourcing this curriculum area was revealed to be in conflict with Nina’s beliefs and values. She explained in the group interview, “unfortunately with all these programmes that are out there it’s being outsourced and not seen as a teacher should be capable in all the curriculum areas” (Interview lines 253-255). This contradiction between the instrument and subject elements of the PAP activity system will be discussed later in the chapter. The following section discusses the PAP programme, which was a further object being worked on in the activity system.
The PAP programme object evolved as a priority in the activity system as the teaching team worked to advance the self-review object. The teachers explained during the group interview:

Penny: I think we do have a shared vision and that’s why the focus [of self-review] came together.

Diane: Yes

Nina: We believe kids are capable, we believe in risk taking and we believe in giving them opportunities to extend themselves with our support. (Interview lines 194-200)

During the group interview Penny espoused their collective intentions towards their PAP programme object when she said that they were, “implementing a more physically active side to our outdoor programme” (Interview lines 4-5).

In advancing the PAP programme, the instrument of planning was again operationalised. The teaching team found that changes to their planning processes and documentation (developed through their work in self-review) provided a more comprehensive understanding of the children’s interests. Penny spoke about this in the group interview saying:

I’ve found when I’ve been writing my summaries for the children, that a lot [of children] have wanted to set things up down there [in the outdoor play area]. Their interest is developing it themselves, obviously with guidance from us safety wise, there was a big focus on that which I can see and support. (Interview lines 157-161)
Through this increased level of knowledge, developed through planning, teachers felt better equipped when considering the next steps for learning, and for progressing their PAP programme object.

In their work advancing the PAP programme, other policies (as rules) were operationalised. These included the supervision policy and roster, and the programme policy. These rules were formal agreements which shaped how the division of labour was shared amongst the teaching team in their work on PAP. For example, the supervision policy stated that, “teachers are assigned an area for one week and rotate after morning tea. Rostered area duties are displayed in the main classroom” (Supervision Policy, 26/9/14). In the activity system, the “lead teacher outside set up the outdoor area” each day for the week. The programme policy stated that, “sufficient non-contact time will enable discussions and recording of learning” (Programme Policy, 26/9/14), providing a fair division of labour to the teaching team to work in planning to progress the PAP programme. “Daily non-contact time for planning” became a division of labour element to operationalise the planning instrument.

Alongside planning, the “outdoor environment policy” was a significant instrument, which became a rule. For example, the policy outlined four objectives underpinned by sociocultural learning theory inherent within *Te Whāriki* (Ministry of Education, 1996) as rules to advance the PAP programme:

- to develop respect for the environment and nature;
- to promote holistic development;
- to ensure a safe learning environment, and
- for all curriculum areas to be available to children. (Outdoor Environment Policy, 26/9/14)
This rule led to the forward momentum of the PAP programme object mediating the teachers’ thinking and actions, which I observed during my time at the centre. For example, in the vignette “In the garden” five children were in the garden picking parsley, while Thomas was getting the hose to water the plants. A respect for nature was promoted through children caring for the garden. All curriculum areas (well-being, belonging, communication, contribution, and exploration) were supported within a safe learning environment. Teachers demonstrated a level of confidence in the children’s gardening abilities and prioritised their focus on children who required support. In the following vignette, the teachers also demonstrated their use of teaching strategies and teacher tool kit, for example, encouraging, praising, and facilitating:

“In the garden”: The teacher tool kit in action.

“Put your parsley in your bag Fran” says Penny as she sits by the water trough.

Xanthe is helping to scaffold Angela’s skills to get to the top of the rope ladder.

“Next one, next one, you’re nearly there” says Xanthe. “I can do this all by myself” says Mia going up the rock wall. “Don’t squirt me with that hose, I’ll get wet” Xanthe says to Thomas in the garden. “I can’t do it” says Sidney on the rock wall, “yes you can, just try” says Xanthe and she makes it to the top herself. (Observation 130)

This vignette demonstrated the PAP programme object being advanced as teachers promoted the four objectives within the outdoor environment policy rule, and “teachers’ beliefs and values were being enacted as rules”. These rules prioritised a free play learning environment and enabled the “children to set their own goals”. Hence, the interaction of rules, instruments, and subjects in the activity system were working to advance the PAP programme object.
In their work in the PAP programme, the teachers’ beliefs and values were enacted as tacit rules to ensure safety. For example, in her survey, Diane explained, “I don’t help people get higher on the geo-gym as I believe they need the control gained when they do climb up themselves”. Collectively, such tacit rules were aligned and governed largely by a treaty the teachers had developed with the children to support safe play. For example, Penny’s survey identified her rules as, “respect for others’ space and safety”, and Ulla believed that it was important to follow the policies and rules relating to the centre, when she responded in her survey, “policies and rules relating to the centre”. When the teachers’ tacit rules did not align with the “regulations” (as rules in the system), this created a contradiction between the subject and rule elements. Furthermore, teachers were aware that their beliefs and values in providing for challenge and risk did not align with the beliefs of some parents who were apprehensive over children’s safety. This created a further contradiction which teachers sought to mitigate, discussed later in the chapter in the section about contradictions.

Collectively, the teachers expressed their beliefs and values in advancing the PAP programme through free play, challenge and risk, and sociocultural teaching and learning practices. For example, Nina felt passionately about providing areas of challenge and risk, as she stated in her survey that, “risk taking is vital!” In discussing her beliefs and values she highlighted in her survey, “I think children need time, space and support to challenge their physical development. It is closely linked to so many other areas of development and, in particular, self-esteem and resilience”, adding in the group interview that it is essential for, “every part of their development really” (Interview line 237). Penny and Diane were advocates for the PAP programme enabling children to set their own goals, which they
expressed through their survey responses. For example, Penny wrote, “we encourage the children to help design and construct our outdoor physical challenges”, while Diane stated, “for me it is important that children be able to change and adapt the resources to best suit their wishes and needs”. While I was attending the centre, Diane demonstrated this aspect in her set up of a purposefully planned activity where she explained, “I’ve put the hoops out for jumping but they will probably jump for ten minutes and then use them for something else. They like to throw them, spin them and catch them” (Purposefully planned activity, 24/9/14). Diane believed in providing both free play and structure, as she saw benefits to both teaching methods, explaining in her survey, “I think there is a role for both free play and structured teaching methods, e.g. for actual skills and games – cricket and soccer for example”. Ulla believed that children should be free to explore their environment and engage in risk and challenge, supported through her teaching strategies, as she explained in her survey “children should be allowed to be adventurous and explore their physical boundaries in a safe and supervised environment. I believe they should be extended into their zone of proximal development with the help of modeling and scaffolding”. Lucy was also an advocate for free play, stating in her survey, “I think children should find physical play fun, exciting, challenging, and rewarding. I think free play is important for creativity and for children to set their own goals”. By drawing these individual beliefs and values into the collective, the analysis revealed a collective belief in free play in advancing the PAP programme. Diane also included structured teaching methods, particularly to teach game specific skills. In their work to progress the PAP programme object, their collective beliefs and values were reflected in their instrument of teaching strategies and teacher tool kit developed to align with sociocultural theory.
As they worked on advancing the PAP programme, teacher participation was a strategy the team valued to engage children in PAP. In her survey, Nina articulated the benefits to her participation, “the children really appreciate the effort and time and they feel valued. We need to be excellent role models”. Hence, “teacher participation reflected quality practice” and became a rule enacted in the PAP activity system to move the object forward. Indeed, I observed Ulla and Xanthe engaging and participating in games of chase and balance with children where this rule was being operationalised to advance the PAP programme object:

“**Oh you got me!**”: Teachers as participants and co-play partners

“**Oh you got me!**” says Ulla being captured by Sita and Finn with hoops. “**Over here**” says Finn pulling her over to the fence. “**How will I get out?**” asks Ulla. “**Go up**” says Finn. “**I’m up on my toes**” says Ulla, “I know…whoosh” she says getting away and running. “**Wait, you didn’t give me a chance to run**” says Ulla as they capture her again. (Observation 145).

This vignette exhibits the teachers’ work in the PAP programme object which led to a success in the activity system. This demonstrates how the rule (participation reflected quality practice) and the instruments (teaching strategies and teacher tool kit, and planning) were brought to bear to advance the object.

“**Walking the plank**”: A plan to develop balance

“I’m walking along here, it’s very tricky” says Xanthe walking along the plank.

“What do I do?” asks Xanthe, “you have to jump” says Sidney, “like a kangaroo” says Thomas. Xanthe jumps and lands on the foam. There are 11 children participating with Xanthe and Nina. Nina gets on the plank and participates, holding Aston’s hand
as he walks in front. Nina jumps after Aston jumps and Nina runs over the foam
mountain. (Observation 172 &173)

Such practice, demonstrated in these two vignettes, is good evidence of teachers’ work in the
PAP programme object. In advancing the object, the teachers were working within the
understanding that for children to learn, they must be assisted by more experienced others (in
this case, teachers). The teachers’ work in progressing the object incited a high level of
teacher engagement, and resulted in a high level of child engagement, for example, when 11
children were engaged in the balance game. These findings reveal the teachers’ actions based
on their beliefs and values, leading to tacit rules about quality practice, supported the activity
systems’ movement toward success.

Contradictions

In my discussion of the collective activity system model of PAP at the Pastel Centre
(represented in Figure 12, p. 129), several contradictions were revealed as teachers worked on
their three immediate objects: self-review, the PAP programme, and parent education. In this
section, I discuss the following contradictions: teachers’ beliefs and values were misaligned
with regulations; incongruity of teachers’ beliefs and values with Playball©; teachers and
parents had different risk tolerances; and teachers’ and parents’ were perceived to hold
different values regarding PAP. I will identify how these worked to impede or advance the
PAP activity system objects at the Pastel Centre.
Teachers’ beliefs and values were misaligned with regulations.

The teachers’ work on the PAP programme was at times hindered, and their beliefs and values challenged, when planning for challenge and risk was in conflict with regulatory rules. During the group interview the teachers described how this contradiction occurred. Penny identified how their beliefs in the value of challenge were actioned through planning when she said, “we plan with challenge in mind”. In designing the outdoor environment, Nina also reflected her beliefs and values by building in challenge and risk using the maximum height allowances within the safety regulations. Nina explained:

You know people say our whare [playhouse] is quite high, well it’s on the borderline [of regulatory height restrictions], it needs to be so we can make sure that the children get a chance to take risks and judge distance and judge height and all those sorts of important things. (Interview lines 42-45)

This statement by Nina makes explicit her beliefs in providing risk-taking opportunities at the limits of the Ministry of Education regulations which prioritise safety, in order to ensure valued learning outcomes for children. Nina also stated that these regulatory limits acted as a constraint, and when exceeded, came under review by the Ministry where changes to comply were enacted. Nina explained, “we have quite a good risk taking environment, well as much as we can. We try not to [reduce challenge] unless we are forced to by the Ministry” (Interview lines 41-42). The regulations (as rules) were considered to impede the teachers’ ability to advance the PAP programme through offering planned challenge and risk taking opportunities. When pushing the limits of these rules, which resulted in a breach of the regulations, the teaching team were forced to reduce challenge in order to comply. The rule element perpetuated a contradiction with the teachers’ beliefs and values and the instruments of planning and the outdoor environment (see contradiction 1, Figure 12).
These regulatory rules, focused on ensuring safety were rules the teachers considered to override their beliefs in providing for challenge and risk in the PAP programme. This reveals that teachers at the Pastel Centre were unable to overcome the contradiction the regulations created as they strove to advance their PAP programme. This was due to the dichotomised concepts of challenge and safety (Stephenson, 2003; Wyver et al., 2010). When safety regulations were not open to negotiation they remained a static rule impeding teachers’ beliefs and values at the Pastel Centre. Stephenson (2003) suggested that early childhood teachers are required to make decisions to accentuate challenge in order to provide optimal learning opportunities for children, while mitigating the potential for injury. Such a concept is difficult to balance when challenge is synonymous with the potential for injury (Stephenson, 2003). However, teachers at the Pastel Centre felt unable to make independent decisions when changes in the environment to support challenge breached safety regulations. Therefore, this contradiction, when precipitated by the regulations as rules, continued to hinder the advance of the PAP programme object.

**Incongruity of teachers’ beliefs and values with Playball©.**

Playball© had been adopted into the activity system to advance both the objective of improving the PAP programme and parent education around PAP. This new instrument alleviated the contradiction between teachers’ beliefs in the importance of PAP, and parents who were perceived to place a low priority on PAP. This was accomplished through the information provided by Playball© expounding the importance of PAP and physical skill development, advancing the object of parent education. However, the adoption of Playball© added a new contradiction to the activity system, which Nina explained as a tension between
her strongly held beliefs in teachers delivering a PAP programme as part of their teaching role as opposed to outsourcing this area to a coaching programme (see contradiction 2, Figure 12). She said in the group interview:

As a manager I believe we’re teachers, we teach art, we teach literature, why wouldn’t we teach physical play as well and we should be able to provide that within the centre programme and not have an extra expense for that. (Interview lines 24-27)

Nina’s expectations were for all early childhood teaching professionals to have adequate tools (including knowledge, skills, and confidence) to provide for the physical domain. In support of this she believed her role as manager was, in part, to provide the teaching team with access to PD so they could work on their collective object of advancing the PAP programme.

Nina’s belief in PD as an enabler for the delivery of a quality PAP programme, which resulted in improved learning outcomes for children, was also suggested in a recent New Zealand study. Here, a targeted movement initiative developed to raise teachers’ knowledge and skills in supporting children’s physical development was evaluated (Dickinson et al., 2010). Positive results reflected the effect of targeted PD which led to improved learning outcomes for children. Moreover, there are synergies between Nina’s beliefs and values surrounding the role of PD, and several international studies which have argued that teachers should be continuing to develop their knowledge and confidence in supporting physical skills as part of their regular teaching practices (Cashmore & Jones, 2009; Coleman & Dyment, 2013; Dickinson et al., 2010; Martyniuk & Tucker, 2014; Vives-Rodriguez, 2005). Indeed, at the Pastel Centre, when asked about her confidence in facilitating PAP, Penny stated in her survey, “more so now as we have recently attended two physical activity focused workshops”. These findings add to the arguments surrounding the important role of PD in extending teachers’ knowledge, skills, and confidence in PAP.
In order to overcome the contradiction created by this new instrument, Nina continued to prioritise PD and added Playball© outside the operating hours of the Pastel Centre, maintaining a degree of separation with her early childhood programme. During my week at the Pastel Centre, I observed that Nina offered Playball©, once a week, after the end of the centre’s normal day of operation (Observation, 159), to advance the object of parent education. This new instrument utilised the centre’s environment and offered a service to parents who wanted to pay for their child to attend this coaching service. These findings add to those of the Sunrise Centre, where Playball© was being used to advance the objects in the activity system however, they were integrated in different ways at these two early childhood centres.

**Teachers and parents had different risk tolerances.**

The teaching team at the Pastel Centre reported that some parents had a cautious and safety-oriented approach to supporting children’s engagement in the physical domain. During the group interview, Diane explained how teachers’ and parents’ beliefs in children’s physical competencies sometimes differed (see contradiction 3, Figure 12):

> Some parents give their children a lot more support than we would. I think we probably see them as more competent than the parents see them sometimes. But they are not overly cautious, they don’t say oh you can’t do this or don’t try and do this.

(Interview lines 75-78)

While parents did not restrict their child’s engagement with the environment, teachers did consider some parents to be overly apprehensive over children’s safety, impeding the
Teachers’ work in their parent education object. The teachers reported that these parents raised concerns about the risk of injury surrounding the built-in challenges in the environment. The contradiction between the community (where parents were apprehensive over children’s safety) and the instrument (the outdoor environment had built-in challenge) was discussed by Nina and Diane during the group interview:

Nina: When the whare [playhouse] went up there were a few concerned about the fireman’s pole and that sort of-

Penny: the gap in-between

Diane: the open area

Nina: Yeah the platform but obviously you need a platform to launch off and when little John started his mum said ‘it’s not that I don’t trust you guys but he’ll just walk off the end without seeing’. (Interview lines 79-85)

Teachers were aware that the built-in challenges in the environment made some parents anxious about their child’s safety, and they sought to allay these fears through their discussions with parents. Nina explained in the group interview:

So I guess they are aware of the steepness of the sandpit steps, and I’ve said in the past ‘we are like we are here, they will learn, we will teach them’. We just let the children explore and guide them as need be and inform the parents of that, we will be there, but we have to let them try. (Interview lines 85-103)

Teachers identified teaching strategies (such as supervision and guidance) that they used to manage safety, communicating these through their discussions with parents. Nina explained in the group interview:
...so I feel when the opportunity’s there and those discussions come up we’ll promote that... In my professional discussions I try and point out that we need to give the kids the chance to get their judgement. (Interview lines 79 & 93-96)

These conversations were considered helpful in reassuring parents while also advancing the object of parent education. Teachers wanted children to have opportunities to learn and develop through active exploration. In order for children to have such autonomy, they worked to build parents’ tolerance toward challenge and risk. The new instrument of discussions with parents helped the team mitigate this contradiction and advance parent education.

Teachers and parents were perceived to hold different values regarding PAP.

There was a contradiction between the teachers’ beliefs and values and those of the community of parents who were perceived to place a low priority on PAP, impeding the parent education object (see contradiction 4, Figure 12). During the group interview the teaching team discussed the findings of their parent survey (within the instrument of self-review tools) highlighting this contradiction in the activity system:

Diane: They are not aware of the links of cognitive development and-

Nina: A lot of them were saying that they want their focus on the pre-literacy the more formalised inside thing…. So they felt that the importance of early childhood education was sitting down and doing the pre-literacy and art. Part of it being I guess, is an unawareness of the importance of physical development. (Interview lines 60-66)

There are international studies which point to parents’ expectations on academic achievement as a clear objective of attending early childhood education (Brown et al., 2009; Maynard &
Waters, 2007). At the Pastel Centre, this was also found to be the case, and one that the teaching team worked to displace. In order to overcome this contradiction and progress their work in parent education, teachers utilised discussions with parents and planning as instruments to raise parental awareness of valuable learning outcomes developed through children’s engagement with the PAP programme.

In summary, teachers could not overcome the contradiction generated by the regulations hindering their work on the PAP programme object. However, other contradictions in the activity system found to hinder the object of parent education were ameliorated through new instruments integrated into the system. For example, the new instrument of Playball©, when positioned to operate outside the hours of the centre’s PAP programme, meant that it was no longer in tension with Nina’s beliefs and values. In this capacity, Playball© continued to progress parent education, fulfilling the purpose of its adoption. Discussions with parents became a new instrument integrated to overcome the contradiction in different risk tolerances between teachers and parents. While the teachers’ changes to the planning instrument did not directly relate to overcoming contradictions in the activity system, it was revealed to be a significant instrument in the teachers’ work in the activity system, discussed in the first part of this chapter. In the next section, two vignettes provide evidence of how the transformative process on the planning instrument which stemmed from PD and teachers’ work in the objects, led to improved learning outcomes for children at the Pastel Centre. Planning enabled a success in the system as the teachers moved towards the ultimate outcome of a quality PAP programme underpinned by Te Whāriki (Ministry of Education, 1996).
Enhancing the Nature of PAP Through Planning

The curriculum framework requires adults to, “plan the daily programme to provide resources and equipment which encourage spontaneous play, activities, and practicing of skills for individuals or small groups” (Ministry of Education, 1996, p. 83). Teachers at the Pastel Centre held strong beliefs and values surrounding the importance of the PAP programme and sociocultural theory. These beliefs and values were reflected in their planning strategies designed to support an environment where children could interact, negotiate, and collaborate through their engagement with PAP. In the following section, I illustrate how planning advanced the objects in the activity system (the PAP programme, self-review, and parent education) as I discuss the nature of PAP for Harry and Max illustrated through two vignettes from my observations.

In the following vignette, I demonstrate how Diane’s planning, alongside her teaching practices, supported Harry to explore other facets of curriculum through his PAP interests. Justice and Pullen (2003) argued that literacy opportunities within the environment are enriched if adult mediation supports the planned environment, which was clearly evident in Diane’s practice. Findings from the activity systems analysis at the Pastel Centre provides an example of Diane’s use of planning in the PAP programme to enhance literacy and numeracy. Planning became a successful tool to advance the object where holistic development across curriculum areas was supported through both planning and the affordances of physical activity.
Harry: A plan to support literacy within the PAP programme.

It is the start of the day and Diane who is the lead teacher outside, has planned several activities to support individuals and groups building on their emergent interests. She explained as she set up the basketball game, “I’m setting up a piece of paper where they can keep their own scores. In the past this has helped motivate them” (Purposefully planned activity, 24/9/14). She later explained this offered a way to explore literacy in a purposeful way through their basketball interests. When Harry and his friends come outside they head toward the basketball activity.

Harry throws a ball through the hoop. “Well done Harry” says Diane, “do you want to write down your name and score?” she asks. Diane spells out the letters of his name as he writes. “I find this is a really good way of getting children interested in literacy. Ones that don’t normally do artwork and write their name or sit down to write will engage in the scoring because it’s part of a physical game” Diane explains to me. (Observation 136)

Consistent with several studies in understanding teachers’ knowledge and practices in supporting literacy (Cunningham, Zibulsky & Callahan, 2009; Justice & Pullen, 2003; McLachlan, 2010), Diane used specific targeted teaching strategies within the PAP programme. These strategies included using her in-depth knowledge of what motivates children and her support of children’s unique identities to empower their learning toward a broad and holistic curriculum (Siraj-Blatchford & Sylva, 2004).

Diane utilised environmental staging, resources, and teaching strategies such as encouragement and scaffolding to support planning for Harry’s numeracy and literacy development within PAP (where he had to keep score and write it down). McLachlan (2010)
identified that the nature of *Te Whāriki* is a competence based curriculum, providing learners with a level of control in the selection and pacing of their learning process. However, she stated, “this type of curriculum also requires teacher judgment of when and how to introduce new ideas to children. For teachers with strong understandings of literacy, *Te Whāriki* offers maximum flexibility and scope…” (p. 6). Diane’s work in providing literacy through PAP point to a strong grounding and understanding of *Te Whāriki* in supporting children’s holistic development.

As the teachers worked in advancing self-review, *Te Whāriki* (Ministry of Education, 1996) was used extensively to mould their planning instrument to achieve their objective. In the group interview, Nina discussed how the team’s thinking about curriculum implementation, considered more than the surface level of goals and learning outcomes stated within *Te Whāriki*. Nina explained:

> It’s important to explore *Te Whāriki* a bit deeper and look at the reflective questions and read the beginning pages about the principles, and not just focus on the goals and the learning outcomes. You have to go further and build on that. You’ve just got to think outside the square and know what you’re doing really. (Interview lines, 218-223)

Nina’s comments and Diane’s pedagogy demonstrated the flexibility and scope of *Te Whāriki*, which McLachlan (2010) identified as necessary to support engaging literacy experiences was being utilised at the Pastel Centre.
There are synergies between these findings and those of Greenfield’s (2010) New Zealand study on the characteristics of optimal outdoor environments and Bilton’s (2010) published work on outdoor learning in England. Consistent with my findings at the Pastel Centre was the value of play in the outdoors as more than a peripheral activity. Otherwise, as Bilton has stated, “outdoor play will only have a peripheral effect on children’s learning…the adults’ role should be bringing the children, the environment and the curriculum together” (Bilton, 2002, p. 80). At the Pastel Centre, teaching strategies were being used to successfully draw the children, environment, and curriculum together to promote learning opportunities, demonstrated within the vignette about Harry. Planning was a central component used by Diane in advancing learning opportunities for Harry within the PAP programme.

The next vignette illustrates how Max’s physical interests were being supported collaboratively between the centre (through his key teacher Diane) and Max’s family. Events are re-told to demonstrate how the planning process advanced the PAP programme as children were supported in setting their own goals. In addition, parent education was advanced through documentation and discussion as teachers highlighted Max’s learning and development through the PAP programme. I begin with this learning story “Kick it Max!” which Diane wrote for his portfolio about playing football in the rain on my first day at the Pastel Centre:

**Kick it Max!**

We kicked the ball to each other, using different parts of our foot to find out which way was the most comfortable for each of us. After lots of practice you got much better at knowing how much force to kick the ball with, how to kick it to make it go in the direction you wanted, and also how to stop the ball when it was coming toward
you. You got so good at controlling the ball Max, by the time John came to join us you were able to stop the ball coming from John and kick it in my direction with only one touch. This takes great coordination and expertise Max. Yet again you have shown your willingness to persist at tasks, even when it is difficult to achieve the results you want. (Max’s portfolio, 26/9/14)

Children’s individual portfolios offered another means of communicating planning and the continuity of learning to the community (children and parents) at the Pastel Centre. Both teachers and parents contributed learning aspirations and goals used for planning. For example, Max’s family shared information about his physical interests, “what does your child like to play? Kicking a ball. What are your child’s favourite interests? Going for walks, gardening” (Max’s portfolio, 26/9/14). Later in his portfolio a parent’s voice page contributed learning from outside the context of the centre, “Max walked all 6.5 km around Lake Buttermere. He climbed over rocks, jumped over streams and even walked through a tunnel (Max’s portfolio, 26/9/14). Diane wrote a summary of Max’s goals, “Max’s interests continue to exist outdoors with his physical play. He enjoys throwing games, be it hoops, or balls. He likes digging in the sandpit, running and jumping” (Max’s portfolio, 26/9/14). This reveals quality planning practices as a sociocultural process enacted between the key stakeholders, where Max’s learning interests were jointly supported. These planning practices advanced the objects of the PAP programme and parent education at the Pastel Centre. In her learning story there is evidence of Diane making clear links to Max’s interests, learning dispositions, and motor skill development. Synergies were evident between Diane’s practice of observing while being engaged in the activity with Max and the findings of Blaiklock (2008) and White’s (2009) studies where teachers also had to recall events to inform future planning. Some authors have argued that reliability can be called into question through such practice (Blaiklock, 2008; Cameron, 2014). Furthermore, recording children’s
participation in activities is a less effective practice when such documentation does not include well considered next steps for learning (Blaiklock, 2008; Cameron, 2014; Education Review Office, 2013) such was the case in Max’s learning story written by Diane. However, Diane’s beliefs and values aligned with her practices embedded within sociocultural learning theory in engaging with Max’s interests and supporting his goals as she worked to advance the PAP programme. In addition, planning was being utilised by Diane to engage parents as they jointly worked to support Max in his interests during her work in advancing parent education. These findings reveal parents engaged in developing shared goals with teachers, an outcome which was expected to stem from the Kei Tua o te Pae exemplars (Cameron, 2014; Ministry of Education, 2004; Perkins, 2013). In this section, I have considered the strengths of the planning system which was transformed by the teaching team as a result of their work in advancing the objects in their PAP activity system. In the following section, I argue what a good quality planning system means for the nature of PAP in early childhood centres in New Zealand.

Te Whāriki describes planning as a “continuing process, involving careful observation, identification of needs and capabilities, provision of resources, assessment and evaluation” (Ministry of Education, 1996, p. 28). A quality planning cycle will therefore encompass these components leading to a positive impact on the nature of PAP which children experience. Planning systems require the support and motivation of teachers as they work together as a team toward a shared vision of quality (McLeod, 2002). They must put their teaching practices to use to enhance physical learning opportunities for children. In combining both pedagogy and curriculum, teachers can ensure an optimal learning environment which empowers children’s learning across all curriculum areas through the
affordances of physical play. Te Whāriki states, “The early childhood curriculum takes up a model of learning that weaves together intricate patterns of linked experience and meaning rather than emphasising the acquisition of discreet skills” (Ministry of Education, 1996, p. 41). Learning in the PAP programme is not merely concerned with motor skill development. Rather, it facilitates all curriculum areas interwoven within the strands of Te Whāriki: wellbeing, belonging, communication, contribution, and exploration (Ministry of Education, 1996). The Pastel Centre offered clear evidence of the way planning can be utilised to advance the objects of self-review, parent education and the PAP programme in the PAP activity system.

Conclusions Drawn From the PAP Activity System at the Pastel Centre

The team at the Pastel Centre worked on advancing three objects: self-review, parent education, and the PAP programme in their activity system. Self-review was prioritised as an object when the centre was approached by several companies offering external PAP coaching programmes. In order to understand parents’ and teachers’ aspirations for their PAP programme, the teaching team developed self-review tools that they could critique and evaluate their existing PAP programme with. What they found was a constraint stemming from limited space and equipment. In order to mitigate this contradiction, the team operationalised planning and invested in PD. Planning was utilised to maximise their use of space, including the inside area. Through planning, teachers prioritised focused, well positioned resources reflecting children’s current interests, ensuring adequate room for children’s engagement. Following the team’s engagement with PD the planning instrument was expanded to include other facets, such as a weekly planned PAP focus, changes to documentation and planning processes, including daily and weekly planning meetings. These
additions provided a new framework for planning underpinned by Te Whāriki with which the teachers could progress self-review. PD also resulted in the addition of another new instrument and rule. Teaching strategies and a teacher tool kit were developed to reflect teachers’ beliefs and values and a collaborative treaty was established for safe play. The findings at the Pastel Centre are consistent with those of other studies which point to the role PD plays in enhancing teachers’ skills, confidence, and motivation (Breslin et al., 2008; Greenfield, 2007; Martin, 2011; Storli & Hagen, 2010). These findings established PD as a key instrument central to advancing self-review where changes to planning, new instruments including teaching practices, a teacher tool kit, Playball© and new rules stemmed.

Parent education was established to increase parent awareness of the importance of PAP in the curriculum, resulting in valued learning outcomes for children. In advancing this object, planning was operationalised as a visual tool. The valued learning outcomes which stemmed from PAP were illuminated for the parent community. The vignettes demonstrated the success of this instrument, when parents and teachers both contributed to planning, resulting in valuable learning outcomes for Max. Harry’s vignette illustrated the PAP programme being utilised to incite literacy and numeracy outcomes valued by parents. In this way, parent education was advanced by raising parents’ awareness of the value of PAP as part of the holistic curriculum. In addition, allocated key teachers planned and discussed learning with parents through the division of labour element. Discussions with parents also worked to ameliorate the contradiction when parents had different risk tolerances to teachers. Teachers utilised these discussions to advocate for children to be able to develop their own judgements and learning opportunities challenge provided. They explained their use of supervision and guidance as strategies to support children’s exploration in the outdoor area. Parent education was also advanced when Playball© mitigated the disparity between teachers’ and parents’
perceived values on PAP. However, another contradiction was created when Playball© did not align with Nina’s beliefs and values, which was overcome by providing this new instrument outside the operating hours of the Pastel Centre.

The teaching team prioritised the PAP programme as a further object wherein their collective goal was to increase physical activity within their outdoor PAP programme. Planning was central to the teachers’ success in advancing this object. Changes to their planning processes and documentation led to an enhanced understanding of children’s emergent interests, highlighted through the vignettes in this chapter. As a result, teachers felt more equipped to facilitate next steps for learning. Several rules operated in the activity system; some stemmed from the teachers’ beliefs and values, and all shaped the teachers’ actions in advancing the PAP programme. Collectively, the teachers valued the provision of challenge and risk, and sociocultural perspectives of teaching and learning to support children’s goal setting. However, a contradiction became evident when teachers’ beliefs and values were in contradiction with the regulations. This was not a constraint that teachers appeared able to overcome, other than to exert pressure on the limits of the regulations.

The findings of this case study revealed planning was a central component of the PAP activity system at the Pastel Centre, and was a success of the activity system which was evidenced in the vignettes of Harry and Max. The development of planning, as a result of PD and their work in advancing their objects, resulted in an instrument which was highly valued by the teaching team in delivering PAP as part of the curriculum. Previous research has also argued that planning (which supports children’s unique identities as learners) is necessary for the delivery of a broad and holistic curriculum (Hedges, 2003; Oliver & McLachlan, 2006;
McNaughton, 2002; Siraj-Blatchford & Sylva 2004; Veale, 2006). This case study highlighted the initiatives implemented in the planning cycle at the Pastel Centre which resulted in enhanced learning outcomes for children, reflected in learning dispositions and working theories. Such findings position the utility of planning as a powerful factor in supporting programmes and learning opportunities for children. Indeed, quality planning systems continue to be a priority expounded through the Ministry of Education’s distributed literature, to the early childhood sector (Education Review Office, 2007, 2013; Ministry of Education, 1996, 2004, 2007, 2009). These findings have highlighted how the Pastel Centre was able “to develop their own distinctive pattern for planning, assessment, and evaluation” (Ministry of Education, 1996, p. 28) as a success of their work in advancing their PAP activity system objects.
Chapter Six

A Case Study of PAP at the Limelight Centre

In the first part of the chapter I introduce the Limelight Centre providing a context for my discussion of the collective activity system of PAP. I describe the major contradictions which were revealed in the activity system analysis as teachers strove to achieve their immediate object of “the PAP programme”. The analysis revealed these contradictions stemmed from centre-level practices which reflected a priority towards children’s safety and wellbeing as core values at the Limelight Centre. These core values manifested within teachers’ beliefs and values and became enacted as tacit rules, which conflicted with other elements of the activity system. I argue how these contradictions constrained the advancement of the PAP programme whereby children at the Limelight Centre had limited opportunities to engage with PAP. The main findings reveal that children’s opportunities to explore PAP outside or inside were afforded or restricted by teachers’ pedagogical practices and decision-making on the day. The most significant factor that influenced children’s access to outdoor play was teachers’ reluctance to go outside. The centre’s routines and policies further impacted the provision of the PAP programme. Finally, I address the significance of this case and the impact of teachers’ beliefs and values on the nature of PAP in city-based centres in New Zealand. I conclude with a summary of how the PAP activity system at the Limelight Centre was working during the time I was attending.
**An Introduction to the Limelight Centre**

The Limelight Centre was owned by Nisha who purchased the centre in 2012. Nisha worked part-time while moving between two centres that she owned. During my data gathering at the centre, a student was on practicum placement and one of the fulltime teachers (Sunita) was away for a month. The Limelight Centre was open from 7:30 a.m. to 5:30 p.m. each week day and was licensed for twenty three 2- to 5-year-olds. Parents had the option of enrolling their child for the full day, for a shortened school length day, or for a morning or afternoon session. During my three days of observations the mean number of children attending was 13 in the morning and 10 in the afternoon. The majority of children attending in the afternoon slept from 12:00 p.m. to 2:15 p.m. Nisha categorised the demographics of the children enrolled as 39% from other cultures, with 13% New Zealand European, 13% Samoan, 13% Māori, 9% Indian, 5% Tongan, 4% Cook Island Māori, and 4% Chinese.

The Limelight Centre was situated on the ground floor of a two storey house, and Nisha lived above. The outside area was located at the opposite end of the house to the children’s inside play space. Children accessed the outdoor area through the laundry door where children would line up when it was outside time. The outdoor play area had undergone major improvements in 2013 (see Figure 14, p. 163). It was large and open-planned, with a cycle track and grass areas where children could engage in a variety of activities. The traditional Māori stylised playhouse (called a whare) offered a shaded area utilised for different games such as family play, and hide and seek. The maihi (the diagonal bargeboards) had been carefully painted using the traditional Māori colours of red, white and black. At the apex of the gables was a shell design, with shells also hanging above the sandpit. The whare styled
playhouse, shells, logs, planks and natural wood playground all added to the natural aesthetics enhanced by the neighbourhood trees and surroundings.

Figure 14. The Limelight Centre’s outdoor space.

The PAP System at the Limelight Centre

The model (see Figure 15, p. 164) represents the PAP activity system at the Limelight Centre during the time I was gathering data, and in the following the section I describe how the elements were working together to mediate the object in the PAP activity system.
Contradictions:

1. Teachers’ preferences determined outdoor access vs. daily timetable
2. Routines and ratios vs. daily timetable
3. Sun protection policy vs. daily timetable
4. Children should stay clean rule vs. providing a free play environment rule
5. Teachers’ risk anxiety vs. children set their own goals

Figure 15. Model of a collective activity system of PAP at the Limelight Centre.
In working towards a system outcome of “a quality PAP programme underpinned by Te Whāriki”, the teaching team expressed their immediate object as the PAP programme. Each of the teachers drew their individual goals for the PAP programme into the collective, which they expressed through their survey responses. Emeny wrote, “children will pursue their own physical goals at their own level with the activities and resources provided, and attempt challenges and difficult tasks”. Osana’s response was fairly similar, “children will pursue their own physical goals through their play”, while Nisha wrote, “for children to have options to choose from and can manipulate their play”. Hence, for the teaching team at the Limelight Centre the PAP programme object meant that “children would pursue their own PAP goals utilising the resources provided”.

As teachers worked on the PAP programme they ensured that the “resources were changed regularly to support children’s interests”. As an instrument in the activity system, the changing of resources allowed children to adapt their play to meet their own goals. Emeny explained in the group interview, “it’s not always teacher initiated we want the children to initiate their own play where they are able to develop in different areas physically” (Interview lines 10-11). Nisha provided an example, “we take the swings off and we might put up a ladder... we change it because children like a bit of variety” (Interview lines 119 &124). Hence, this instrument was used to advance the PAP programme object by inciting children’s interests towards engagement in PAP, where “children set their own goals” and “adapted the resources available to meet their goals”.
Collectively, the teachers’ strong beliefs and values in a free play learning environment became a rule which supported their work in advancing the PAP object. Osana valued free play as a means to enable challenge and risky play as she explained in her survey, “setting up the environment and challenge areas are very important for children’s physical development. They need to have opportunities for free play and running and also to challenge themselves and take risks”. Emeny also believed in supporting opportunities for challenge, responding in her survey, “setting challenges is also very good for children’s physical development”. Nisha valued both free play and the addition of structured physical activities, explaining in her survey response, “I do believe in free play however a little bit of structure/discipline gives enough direction to a child to develop not only his/her self-esteem, but also confidence and self-discipline”. In order to advance the PAP programme object, providing a “free play learning environment, which supports challenge and risk” became a rule in the activity system.

The teachers’ beliefs that “children should stay clean” during their time at the Limelight Centre became a rule underpinned by their perception of parents’ expectations of quality care and their desire that the centre systems meet these needs. Nisha explained in the group interview, “they might not say anything to us, but they also don’t like muddy clothes, a gumboot full of mud and a t-shirt that is all muddy and dirty” (Interview lines 368-369). However, in their work in advancing the PAP programme object, this rule became a contradiction to children setting their own goals and adapting resources to meet their needs. Later in the chapter I describe how the children’s exploration of mixing sand and water illustrated this contradiction being enacted in the activity system.
As they worked to advance the PAP programme object, “teaching strategies became rules to support their beliefs and values” in free play and facilitating challenge and risk taking. For example, Osana identified this in her survey response, “In my role as facilitator of physical activity, I believe children should practice and feel confident in their play”. Emeny too considered her teaching role to support children’s confidence in outdoor play, writing in her survey, “I believe children should feel confident in their play. Children should not be restricted”. While Osana and Emeny wanted to advance the PAP programme by supporting children’s capacity to practice, feel confident, and not be restricted in their PAP experiences through their teaching strategies as rules, this was not consistently observed in practice due to their anxiety that children might become hurt. The following are two such examples, from my observations, where a disparity existed between teachers’ espoused beliefs enacted through new rules to advance their PAP programme object, and their teaching practice: “Tim up the ladder, down the slide. I don’t like how you are walking up the slide, that’s not how you use it, you might have an accident” says Emeny (Observation, 190). In another observation a hanging swing was put outside and Karl was intent on sitting on it to swing. On noticing, Osana said, “Karl you don’t sit on it, you hang on it. Get down” (observation, 225). In these examples, a free play learning environment to support challenge and risk was not being supported through teaching strategies as rules in the activity system. Rather, these occurrences demonstrated that the high level of duty of care which resonated within the centre systems overrode their curriculum objectives to support challenge and risk taking. Therefore, a new rule was generated where, “teachers’ risk anxiety curtailed children’s exploration” because children’s safety was prioritised and a contradiction was formed between the subjects, rules, and community elements. This contradiction resulted in an inability for children to set their own goals, and adapt resources to meet their goals. Later in the chapter I explore more fully how this contradiction impeded the PAP programme object.
I provide an example of risk anxiety hindering PAP inside, when the rule (“teachers controlled indoor physical activity”) was utilised by teachers when children were engaged in balloon games.

As the teachers worked to advance their PAP programme object, they were constrained by rules in tension with the instrument of the “daily timetable that allocated three hours outdoor access” in total to children each day. The PAP programme object was constrained by teachers’ beliefs and values which prioritised inside sedentary play, enacted through the rule that “teachers’ preferences determined children’s outdoor access”. During the group interview Nisha discussed the collective preference toward learning inside when she explained, “basically most of the time we think indoors. But it does get trickled outdoors” (Interview line 141). Nisha expanded on this preference for inside sedentary play, when she explained that “physical means when it’s outdoor play” (Interview line 14) and “inside physical activity occurred in a very controlled way” such as “including a little bit of movement during mat-time” (interview line 21). In their work to advance the PAP programme object, the instrument of the daily timetable was operationalised to provide children with outdoor access. For example, in the group interview Nina said, “we keep in mind that there has to be some activity which must be taken outdoors… so it [PAP] gets covered” (interview lines 138-139). However, this instrument which allocated 3 hours outdoor access in a ten hour day was not being operationalised as a rule. Rather, it remained an instrument which was undermined by the rule that teachers’ preferences determined children’s outdoor access and undermined the division of labour “staff roster”. I was able to observe such occurrences of this rule disrupting their work on the object, illustrated in this example highlighting Emeny’s preference for inside sedentary play, “can we go outside now?” asks Tom, “no we are staying inside, we have got all these things out on the table”
says Emeny (Observation 202). When this occurred, the teacher who was allocated outside during the afternoon, remained inside and “children had limited access to PAP”. Later in the chapter I discuss the contradictions which stemmed from rules in the activity system.

A further contradiction was generated when the “sun protection policy” rule was in tension with the daily timetable instrument. The sun protection policy rule stated, “staff should consider shorter scheduled times outside” (Sun Protection Policy, 17/10/14), effectively limiting children’s access to PAP. In one observation, Osana and I talked about the weather and Osana indicated that the sunny day would result in a shorter scheduled time outdoors:

I hope the weather is going to be fine” says Osana. “I heard it was going to be a high of 18 degrees today, it should be lovely” I replied. “We had better not stay out too long then” said Osana (Observation 219).

On this particular day, the children accessed the outdoor area for one hour in the morning, and did not go outside in the afternoon. Osana’s intention was to shorten children’s access to the outdoors, in order to protect the children from excess sun exposure reflecting their priority toward care and protection as a core value at their centre. “Routines and ratios” (as a rule) were also a constraint during my time at the centre due to Sunita being absent. When Sunita’s rostered cooking duties were allocated to Osana, she saw this as a barrier because she felt that time in the kitchen limited her ability to engage with the children in the daily timetable. On one of the days I was observing, Osana was occupied in the kitchen between 9:45 a.m. and 12:00 p.m. (Observations 260-269) and she was unable to support the children’s engagement in play. Each of these rules, when in contradiction with other elements of the PAP activity system, hindered the teachers’ work in advancing their PAP programme object. In the next section of the chapter I discuss more fully each of these
contradictions found within the PAP activity systems analysis as they impacted the teachers’ work in advancing their object.

**Contradictions**

In this section I discuss several contradictions which existed between the subjects, instrument, rules, and community elements of the PAP activity system. These contradictions were due to a disparity between teachers’ espoused beliefs and values and those enacted in practice. Contradictions existed between rules, while rules also generated contradictions when in tension with other elements of the activity system positioned to advance the object. Here, I explore how these contradictions were working in the system to hinder the advance of the PAP programme object.

**Teachers preferred to be inside.**

The PAP programme at the Limelight Centre was influenced by the daily timetable which stipulated when children could access the outdoor environment and resources. These times were listed as:

- 8:45 a.m. to 9:15 a.m.
- 9:45 a.m. to 11:00 a.m.
- 1:30 p.m. to 2:30 p.m. (Daily timetable, 17/10/14).

These scheduled times equated to almost three hours in a 10 hour day. However, over the three days of my observations, the daily timetable and staff roster were overridden by
teachers’ preferences for inside sedentary play and teachers and children remained inside, which I have illustrated in the vignette “Can I go outside?” later in this section.

My observations revealed that children’s access to the outdoors totalled 1 hour on two of the days and 2 hours on the final day. For example, children went outside from 10:15 a.m. to 11:15 a.m. (Observations 187-191 & 225-229) on the first two days, with children unable to access the outdoors in the afternoon. The following vignette “Can I go outside?” illustrates the PAP programme being impeded by rules in the PAP activity system. These rules enforced through teaching strategies, and in contradiction with the daily timetable instrument, significantly affected the children’s engagement with the PAP programme at the Limelight Centre, impeding the teachers’ work on the object (see contradiction 1, Figure 15).

“Can I go outside?”

Kohen frequently asks Osana and Emeny, “Can I go outside?” “soon” or “later” they say and Osana explains, “He likes to go outside, he loves it out there. When he asks Sunita (the teacher who is away on leave) to take him out, she takes him straight out. When he asks me or Emeny we say later and then he forgets all about it”. (Observation199). In another observation, Osana and Emeny find it difficult to get the children to come inside, and Osana talks about the teaching strategies that they implement to manage children’s behaviour and enforce their rule. “I don’t think he wants to go inside” Osana says to me. “That’s like Kohen, he loves it outside, sometimes he won’t come in when it’s lunchtime. We have to say Mummy is here and he runs inside. That’s how we get him to go inside sometimes” says Osana. (Observation, 219). Other teaching strategies were used to manage children’s behaviour and enact their preference for inside play. “It’s inside time now, we’ll
come back outside soon” says Osana. “Afa, come, Dante, come” says Osana. Seven children still won’t come inside. “One, two” Osana starts to count, “you want to go in the office?” and the children go inside. (Observation, 259)

My observations revealed that teachers and children at the Limelight Centre spent the majority of their day inside. “Can I go outside?” provides an example of how Osana and Emeny used distraction as a means to avoid taking children outside and indicates their preference for being inside. Even though Osana verbally acknowledged that there was flexibility available within the programme to respond to Kohen’s request, her decision was to remain inside.

Teaching strategies became rules to support the teachers’ beliefs and values, where a preference for inside play was apparent. In the “Can I go outside?” vignette, these included delayed gratification, where going inside would be rewarded by coming outside again soon, and by threatening consequences to non-compliance resulting in time in the office. In a further observation, previously mentioned in this chapter, Tom asked Emeny if he could go outside. Emeny’s response was to say no, stating that there were activities on the tables instead. Each of these teaching strategies were enacted as rules and resulted in children spending more time inside than was scheduled in the daily programme, reflecting the teachers’ preferences for inside play. The centre systems, such as the agency to override the daily timetable, and the range of strategies deployed to prioritise inside play at the expense of outdoor PAP, suggest a lack of professional knowledge surrounding the importance of a curriculum where PAP plays an integral role. Both Dowda et al. and Bower et al. have argued that higher levels of teacher training have been associated with higher centre levels of physical activity. Professional development offers a potential mechanism to ameliorate this
contradiction constraining the teachers’ work in realising their goals for the PAP programme object.

These findings add to those of several studies which argue that children’s outdoor access was directly related to teachers’ preferences and decision making on the day (Copeland et al., 2012; Kos & Jerman, 2013; Martin, 2011; Maynard & Waters, 2007; and Storli & Hagen, 2010). There are synergies between the findings of the systems operating in the Limelight Centre and those of Copeland et al.’s (2012) study. Based on data collected from 49 US early childhood teacher/providers, the authors’ findings revealed that even if the centre’s schedule calls for two daily outdoor opportunities, participants described instances in which the teacher could override the schedule. Moreover, they concluded that the role of the teacher as gatekeeper to children’s access to the outdoors was profound. A policy recommendation which emerged from this study was the need for interventions which targeted and supported teachers through training, improving teachers’ self efficacy in supporting PAP, and addressing teacher-perceived barriers including beliefs and preferences about weather (Copeland et al., 2012). Copeland et al., (2012) have argued, “such interventions are crucial with parents working long hours and/or children living in unsafe neighbourhoods, as their time in childcare may be their only opportunity to be active (p. 98). At the Limelight Centre the time children accessed the outdoors during the week of my visit was much less than what parents might have expected for their child given the advertised daily room routine.
Routines and ratios.

At the Limelight Centre, one teacher (Sunita) was away on leave and Osana had to absorb the cooking duties into her regular teaching duties. Osana and Emeny managed the cleaning duties within the centre, such as vacuuming, mopping and cleaning the bathroom. Cooking, cleaning, and supervising sleeping children were regular events where teachers were tied to duties which required them to be inside. Teachers’ routines had to be adapted in light of the pressures of having only two teachers and a student on practicum available throughout most of the day. However, the number of children attending was low, with an average of 13 children attending in the morning and 10 in the afternoons. These numbers remained well within the regulatory ratios set out in the Education (Early Childhood Services) Regulations 2008 of 2:20 (Ministry of Education, 2008).

The length of time that children at the Limelight Centre spent outside each day (between one and two hours over my 3 days of observations) was in direct contrast to Lockie and Wright’s (2002) study. In this study, data was collected from 200 New Zealand early childhood centres. The authors established that only 6.5% of centre’s catering to the over 2-year-old age group had restricted access to outdoor play. Centres with restricted access were found to offer more frequent periods of outdoor-only access during the day, which was not the case at the Limelight Centre. In addition, nearly two thirds of centres catering to the over 2-year-old age group provided an average of 6 hours and 30 minutes of free access to outdoor play each day. This was significantly more than the average observed at the Limelight Centre.
Lockie and Wright (2002) identified some factors that made the provision of outside access “easy” for teachers. These were identified as being the child’s choice, attitude of teachers, good ratios, flexibility, shelter, and staff not tied to duties. Factors which made outside access “difficult” for teachers were routines and regular events. These included sleeping, eating, structure, staff duties, staff tied up with routines, tidying up and greeting and farewelling parents. Many of the factors Lockie and Wright (2002) identified such as the attitude of teachers, and routines and regular events (such as cooking, cleaning, and supervising sleeping children) which impeded children’s outdoor access, coincided with those at the Limelight Centre. The PAP programme was being impeded by routines as rules in contradiction with the daily timetable in the PAP activity system (see contradiction 2, Figure 15).

**Sun protection policy restricted outdoor access.**

The sun protection policy, developed collectively, reflected the teachers’ preference for inside play and their core centre values which were to care and protect children. However, this policy which promoted centre-level practices to protect children from the harmful effects of the sun also worked to constrain the PAP programme. During my time at the centre which was during spring, the maximum temperature outside reached 18 degrees celsius. The days were mild and clear of rain, and the morning routine included children donning their hats and sunscreen in readiness for outside as demonstrated here:

Emeny puts sunscreen on Jacob’s hand, and models how to rub it in, “good boy” she says as he copies. “Jacob, go and get your hat” says Emeny. “Tina, go to the bathroom and clean your face and then put sunscreen on” says Emeny. (Observation 224)
Centre policies guide teachers in providing quality practices and are underpinned by the regulatory framework. The Ministry of Education (2015) provides policy exemplars to assist centres in developing their own policies and procedures to adequately meet the regulatory requirements and high quality education and care. Centre managers and teachers may then decide to impose increased measures in their policies to further enhance the safety and care of children, which was the case at the Limelight Centre. Such policies can act as both barriers and enablers to teachers in some aspects. The sun protection policy at the Limelight Centre stated:

When the advertised burn time is less than 30 minutes or times between 10:00am and 5:00pm particularly when there is limited or no cloud during the summer months (November-March), management will declare a ‘sun-unsafe day’. (Sun protection policy, 17/10/14)

This strongly worded opening sentence provided a barrier to children engaging in outdoor play, whereas protective clothes, hats and the application of sunblock were identified as enablers. Within the policy, the sandpit was identified as an area that was 100% shaded, making this an acceptable play area. The policy described how teachers would promote sun-safe habits such as explaining the damage the sun can cause to skin, and teachers were requested to act as role models wearing hats, protective clothing, and sunblock alongside children. Teachers were also advised to consider shorter scheduled times for children to be outside, where it stated, “where possible outdoor activities should be scheduled for limited times (maximum 30 minutes) during ‘sun-unsafe days’ or alternatively in the shaded areas” (Sun Protection Policy, 17/10/14).
Given that the Limelight Centre had no natural shade provided by trees and the strong policy wording, children’s time outside could be limited to a maximum of 30 minutes during the summer months. This policy was also enacted during my time at the centre in spring when the temperature reached a high of 18 degrees celsius. Even though the sandpit was fully shaded, Osana and Emery both mentioned that a sand trough had been brought inside last summer as an alternative to children accessing the outdoors. This self-review initiative, alongside the restrictions the team had written into their sun protection policy, reflected teachers’ preferences for inside play and their desire to protect children. This self-review initiative (in February 2014) was documented in the room review book which stated:

**Reason for improvement:** Hot weather, the sun is dangerous; we wanted to bring some outdoor resources inside.

**Resources/-professional learning required:** Improvising and thinking outside the box. Using flexibility with rules and regulations. Swapping outside toys/ inside toys.

**What? Who? When?** Sunita cleaned out the trough and brought it inside. The children helped bring buckets of sand inside to fill the trough.

**Task completed and evaluated:** The sand trough is the most popular activity inside. Children are able to engage with the sand safely.

The Ministry of Education (2015) advises early childhood centres to seek direction from the Cancer Society in developing a SunSmart sun protection policy. Their information sheet and sample policy advises children and staff to use a combination of protective measures including shade, clothing, hats, sunscreen, sunglasses, role modeling, and the sharing of information about sun protection. These aspects were all included in the Limelight Centre’s
sun protection policy. The Cancer Society advises that particular care should be taken between the months of September and April (between 10:00 a.m. and 4:00 p.m.) when UV levels are at their peak (Cancer Society NZ, 2015). The Limelight Centre had chosen to add more stringent barriers to their policy surrounding exposure times than outlined by the Cancer Society. These systemic practices aimed to prioritise the care of children came at the cost of children’s outdoor opportunities and their ability to engage in PAP within the curriculum, which hindered the advancement of the PAP programme. A contradiction remained between the rules, daily timetable (instrument), and children’s engagement in PAP in the activity system (see contradiction 3, Figure 15).

**Teachers’ rules inhibited children’s PAP goals.**

The advancement of the PAP programme, whereby children in the community set their own goals and adapted resources to meet their goals, was hindered when teachers enacted the rule that children should stay clean. Teachers perceived that their beliefs and values which underpinned their rule (that children should stay clean) coincided with those of parents, and reflected the centre’s core values on quality care discussed earlier in this chapter. The next vignette demonstrates how the rule that children should stay clean perpetuated a contradiction with the instrument and community elements of the activity system (see contradiction 4, Figure 15). In this example, the provision of resources which were changed regularly to support children’s interests as an instrument included the water trough and watering cans which teachers had positioned beside the sandpit and sand equipment. This vignette illustrates how teachers’ beliefs and values enacted as rules became a contradiction to children’s goal setting and ability to adapt resources to meet their needs. This rule that children should stay clean was in conflict with their rule about providing a free play learning
environment positioned to advance the PAP programme where a within-element conflict of the activity system was observed.

“We are doing mucky work”

On this day, the water trough was set up alongside the sandpit to support an emergent interest in water, and both the sand and water exploration were areas of high child engagement. The children were particularly interesting in transporting the water to the sandpit, while I observed. “I’ve got some water” says a boy with the watering can; he goes back and forth carrying it to the sand. “Smash it, smash it” says the boys in the sandpit as they flatten the sand when it’s wet. They squeal and scream as the water goes in. “It’s all muddy, get the mud away” says a boy using his spade. They fill a dump truck with the wet sand, “get the shovel, come on, come on” says a boy as more water gets delivered. He puts water over the boys’ spades as they hold them out. “We are doing mucky work” says a boy. “No more water in there” says Emeny (Observation 187). A few minutes later, when Emeny had moved away, the boys resumed their game transporting the water to the sandpit, and Osana said, “What did Emeny say? No more water over here” and the boys cease their game (Observation 188).

Given that the teachers were supporting an exploration of water facilitated through their environmental staging, I expected teachers to support children’s goal setting within this spontaneous engagement of mixing water and sand. The children were exploring concepts including science, group interactions, team work, communication, sharing, and negotiation. Gross motor skills were also being developed as children transported the buckets of water and moved the wet sand. However, this example reveals how this contradiction constrained the advancement of the PAP programme when teaching strategies became rules to support beliefs and values where the rule was enacted that children should stay clean. These beliefs and
values were juxtaposed with their rule to advance the PAP programme through a free play learning environment, when centre-wide values (to meet the perceived expectations of parents surrounding the care of children) infused their work.

**Teachers’ risk aversion and control over indoor PAP.**

Aside from one indoor mat-time which included an action song, I observed three other occasions of indoor physical activity during my week at the centre when the children played with balloons, illustrated in this vignette:

“The balloon games”.

“Here Raymond”, says Osana getting another balloon. “Henry be careful” says Osana as Karl gets hit on the nose. “Keep them on the mat Raymond, stay here” says Osana, “Raymond watch out for Henry” she says (Observation 246).

Afa has made a bat with connector blocks and is trying to hit the balloon with it.

Nisha says, “I don’t want that toy in your hand when you hit the balloon. You might slip and fall and hurt yourself” and the balloon is put away (Observation 254).

Emeny is unhappy when three children who are playing with the balloons on the mat bang their heads together. As she takes the balloons away she says, “That’s why we don’t play that game because people get hurt” (Observation 282).

“The balloon games” provide examples of the PAP programme being constrained as teachers control indoor physical activity which stemmed from their risk aversion when the centre-wide core value was to care and protect children. Even though Osana and Emeny had identified
their beliefs and values in providing opportunities for challenge and risk in their survey responses, this did not align with their observed practices. “The balloon games” demonstrated that teachers at the Limelight Centre became risk averse when prioritising the centre’s core values of safety and care for the children over their beliefs that children learn through challenge. This was highlighted when the balloons were removed within minutes of the children’s engagement due to their anxiety surrounding the children’s safety and wellbeing. Teaching strategies became rules to support their aversion to risk, and the rule was enacted whereby teachers’ controlled indoor physical activity and limited children’s engagement with PAP, impeding the PAP programme object (see contradiction 5).

Children learn through active exploration, using all their senses and strategies of trial and error. Instilling barriers because of teachers’ risk aversion can eliminate many potential opportunities to learn; therefore, teachers must judge what constitutes a serious danger to children (Stephenson, 2003; Wyver et al., 2010). PD and leadership which advocate the valued learning available within PAP can provide centres with support in developing ways to overcome barriers to children’s engagement (Dickenson et al., 2010). Positive dispositions associated with engaging in risk and physically challenging activities are the ability to be persistent and courageous. As children practice skills such as those with the balloons, they begin to develop skills of spatial awareness, moving through space, to dart and change direction, and avoid collision (Bilton, 2010; Connell & McCarthy, 2014). In order to learn these skills children must have the opportunity to engage and practice within the PAP programme. For children, teachers’ beliefs and values are the unpredictable influence as to whether or not they will have these opportunities. The findings from this case study at the Limelight Centre reveal that teachers were not affording children these opportunities, rather
their beliefs and values reflecting the centre’s priority toward children’s safety became enacted as rules and continued to remain a contradiction hindering the PAP programme.

The Significance of Teachers’ Beliefs and Values on the Nature of PAP

My findings from the Limelight Centre add an understanding of teachers’ beliefs and values which reflected centre-level core values and their impact on the advancement of the PAP programme. The CHAT analysis revealed teachers’ beliefs and values as significant factors underpinning curriculum delivery when child safety and care responsibilities were privileged over the value of child exploration. In understanding, “on what basis do [teachers] think, decide and act in the design and implementation of curriculum experiences” (Nuttall, 2002, p. 92), CHAT analysis provides a unique insight.

At the Limelight Centre children’s interests were positioned as a framework to conceptualise curriculum, where children set their own goals and adapted resources to meet these goals within limits established by the teachers. However, the CHAT analysis revealed teachers’ beliefs and values, reflecting the core values of the centre, constrained these objectives when they became rules in contradiction with the instrument and community elements of the activity system. These were highlighted in the vignette “We are doing messy work” and Afa’s use of his bat in “The balloon games” where teachers’ beliefs and values became rules limiting the advancement of the PAP programme. As Siraj-Blatchford (2008) argued, the curriculum is determined by the teachers who define both the opportunities and limitations for children’s learning. This is because pedagogy and curriculum form two sides of the same coin. There is evidence that there are inconsistencies between teachers’ beliefs and actual
practices in New Zealand early childhood education (Hedges & Cullen, 2005; Mitchell, 2007) where underlying beliefs rather than professional knowledge underpins teachers’ practices (Foote et al., 2004; Greenfield, 2007). At the Limelight Centre these disparities were apparent, for example, between their beliefs and professional knowledge in the value of providing challenge and risk, and their risk averse practices when systems of care and responsibility as a core value at their centre was prioritised. PD offers a means to assess and critique core values and centre-wide practices to ensure children are receiving a curriculum which includes a quality PAP programme. Several studies have argued that PD surrounding physical activity leads to children accessing higher levels of PAP, where teachers are able to mitigate potential barriers to going outdoors (Bower et al., 2008; Copeland et al., 2012; Dowda et al., 2009).

Teachers’ beliefs and values become ingrained into the culture and history of a centre and become the subjective norm (Gibbons, 2005; Hatherly, 1997; Kiley & Jensen, 2003; Lubeck et al., 2001; McLeod, 2002). Furthermore, teachers can be unaware of contradictions in their system. This appeared to be the case at the Limelight Centre where teachers seemed unaware of the impact of centre-level practices which privileged care and safety over PAP across almost every element of their PAP activity system. In reflecting the core values of the centre, teachers’ beliefs and values led to new rules being generated. These included systems where teachers determined outdoor access and controlled indoor PAP, and teaching strategies became rules influenced by risk anxiety and a need to keep children clean. The sun protection policy also reflected the core values of the centre where children’s safety and wellbeing was paramount. However, this policy resulted in centre-level practices and rules which further restricted children’s outdoor access. Each of these rules led to contradictions in the activity system when they were in tension with the daily timetable instrument or
children’s goals setting. These contradictions were unable to be mitigated because they were
not recognised by the teachers, and they could not see how these were working to hinder their
progress in advancing the PAP programme object. This is highlighted by Nisha’s statement
in the group interview, “I think our backyard is being used to its optimum on any given day”
(Interview line 372) and Emeny’s, “we think that our physical aspirations are good where it’s
at” (Interview line 4). Hansen and Lynch (2004) describe this anomaly, where the impact of
values, culture, and biases can be very subtle and yet have a significant impact on how we
behave.

**Conclusions Drawn From This CHAT Analysis**

Quality care and education of children was at the core of system practices at the Limelight
Centre where the impetus for the safety and wellbeing of children underpinned the teachers’
work. However, in upholding these core values, centre-level practices were found to
constrain the PAP programme when teachers’ beliefs and values enacted as tacit rules
mediated the PAP activity system. These included a preference for inside sedentary play,
teachers’ risk aversion, the belief that children should stay clean, and additional restrictions
within the sun protection policy. Many of these lived rules were in contradiction with the
newly expressed rule developed to advance the PAP programme, which was for a free play
learning environment to support challenge and risk, facilitated through their teaching
strategies. In reflecting the centres core values, teachers’ beliefs and values also negatively
impacted other elements of the activity system directed towards advancing the object. For
example, teachers’ preferences for inside sedentary play became a tacit rule whereby teachers
circumvented the daily programme instrument, and the division of labour staff roster, to
reduce the amount of time children could access the outdoors. My observations of the PAP
programme being mediated by teachers at the Limelight Centre, revealed that children had limited opportunities to explore the outside area, to be highly vigorous, or to engage in being active inside. Moreover, children were constrained in setting their own physical activity goals and in adapting resources to achieve them. One of the most significant factors that influenced children’s outdoor access was teachers’ beliefs, values, attitudes, and preferences surrounding being outside, further impacted by the centre’s routines and policies as rules. In particular, the centre’s sun protection policy offered additional restrictions further limiting children’s outdoor experiences during months when burn times were high. The CHAT analysis revealed that teachers were unable to advance the PAP programme object due to the contradictions which were not being acknowledged or mediated within the activity system. This resulted in a static activity system, where it was unable to flex or expand.
Chapter Seven

A Case Study of PAP at the Funtimes Centre

This chapter begins by introducing the Funtimes Centre before I describe how the teachers were working to progress their immediate objects in the PAP activity system. I then explore the main area of contradiction, revealed by the analysis, which impeded the self-review object after a series of accidents in the PAP programme. This contradiction existed between the system components of instruments, rules, and community as teachers’ grappled with their tolerance levels to challenge and risk. I argue how new instruments of PD through a community of practice, and an organisational culture which valued pedagogical dialogue and reflection, were operationalised to mitigate this contradiction. Finally, I argue how the organisational culture at the Funtimes Centre supported honest and open dialogue surrounding teachers’ fears and insecurities and led to a transformation in the nature of PAP. Concluding the chapter is a summary of the key points highlighting how this PAP activity system was working to advance the objects and the successes therein.

An Introduction to the Funtimes Centre

The Funtimes Centre was privately owned and comprised a team of three full-time qualified teachers and two part time teachers (one qualified and one unqualified) who job shared. The teachers were Ella (head teacher), Tania, Beth, Melody, and Tess whose range of experience spanned between 5 and 20 years. The centre was licensed for 27 children aged between 2 and 5-years-old, however, the centre had chosen to limit their programme to 3 and 4-year-olds. The Funtimes Centre operated a daily programme for 4-year-olds on a Monday, Wednesday, and Friday and a full day programme for the 3-year-olds on the alternate days. Across the
three days of my observations, the mean number of children attending was 22, although this was reduced by the low attendances on the Friday prior to a long weekend. The majority of the children enrolled were New Zealand European (80%) with 6% Māori, 2% Cook Island Māori, 4% Chinese, and 8% other ethnicities. The children attended during the centre’s daily operating hours of 8:30 a.m. to 3:30 p.m.

The open-plan design of the centre offered ready access to the outdoor area available to children during the full operating hours. The outside area was an L shape (see Figure 16, p. 188) with a multi-height sandpit and a range of movable climbing apparatus. The covered deck provided a large shaded and weather-proof area. It contained a family corner, kitchen, easel, and a table. This enclave also contained dress-ups with a couch and chairs which were available for children to rest or read under the shelter. Around the corner away from the climbing equipment were water activities where a hose fed into a trough via containers, pipes, and tubes in an intricate display. Trees from neighbouring residential properties peeked over the top of the fence, surrounding the outside area with foliage. This was further enhanced by the mature trees that grew around the sandpit and deck. In pride of place at the Funtimes Centre was the large feijoa tree, surrounded by decking, climbing ropes, and ladders.
What Were the Unique Features of the Funtimes Centre’s PAP Activity System?

The following is a detailed account of the PAP activity system at the Funtimes Centre during my week at the centre to gather data. A model of the system components of the PAP activity system is represented in Figure 17 (p. 189), which is discussed.
Contradictions:

1. Teachers’ risk anxiety vs. promoting challenge and risk
2. Regulations vs. planning and changes to resources

Figure 17. Model of a collective activity system of PAP at the Funtimes Centre.

Collectively, teachers expressed the outcome of the PAP activity system at the Funtimes Centre as “a quality PAP programme underpinned by Te Whārika”. Ella explained in the
group interview, “we are thinking more about learning dispositions in PAP and how we can foster that” (Interview lines 449-450). At the time of my data gathering, the teaching team strove to achieve three key goals as objects in their PAP activity system: “self-review”, “the PAP programme”, and “structured physical activity sessions”.

The object of self-review was identified as a priority in the PAP activity system a few months prior to my data gathering at the Funtimes Centre. This was due in part to children having open access to the outdoor area throughout the day. Hence, the PAP programme was considered to be a large component through which their holistic curriculum was facilitated. Tania explained in the group interview, “I think we are quite focused on PAP obviously because we have got everybody outside quite often and playing on the equipment” (Interview lines 28-29). In addition, a series of incidents a few months prior to my attendance had prompted self-review as an object. The teachers explained during the group interview how their work in advancing self-review began with new self-review tools developed to assess the programme:

Tania: We had broken bones-

Ella: We had three children who broke bones within a two week period and that hasn’t happened in the last sort of five years but-

Melody: Any broken bones and then three-

Beth: And they were all different too, none of them were sort of the same thing either they were all-

Ella: all unrelated and we did a full review of it and you know there was no-
Tania: Link or-

Ella: Yeah no contributing factors that we could see as something that was in our control you know.

Melody: But it did kind of get us to think more about what we were providing and what was happening out there-. (Interview lines 43-56)

In her survey, Melody outlined what the object of self-review meant to this team when she said, “to encourage and promote PAP and to review and extend practices”.

By advancing self-review the teachers aimed to retain their strongly held beliefs and values in promoting challenge and risk. They intended that challenge and risk not be restrained as a result of these accidents. “Self-review tools” enabled the teaching team to consider their goals for PAP and their priorities for self-review, which they discussed in the group interview:

Ella: and our goals I guess in that sense

Melody: and our goals, yeah because we sort of quite deliberately said we don’t want to overreact and completely shut down any kind of-

Ella: risk taking

Melody: and risk taking as a result. Especially when they weren’t as a result of-

Ella: risky behaviour. (Interview lines 57-63)

In order to progress, their self-review object “promoting challenge and risk”, was operationalised as a new rule in the activity system to reflect their collective beliefs and
values. In order to bolster this new rule, a change was made to the “staff supervision policy” (rule), where an additional staff member was assigned to support outdoor supervision through the division of labour. A notice to parents was displayed stating the outcomes of the self-review tools used to evaluate their PAP programme and the changes which were being implemented, where “two teachers supervised outside”. In regard to teacher supervision, it stated:

Because the outdoor area is the bigger space with more perceived risk we will endeavour to always have two staff outside unless unforeseen circumstances require otherwise. This will allow for ongoing supervision, more teacher directed play when appropriate, and coaching for risk analysis. (Accident and Injury review, 29/10/14)

Hence, the self-review object was advanced as these new rules supported teachers “to develop children’s risk assessment skills” while also offering a level of collegial support between the two teachers supervising outside.

In addition, the object of self-review was being advanced through new instruments: “PD through a community of practice” and “working to uphold an organisational culture which valued pedagogical dialogue and reflection”, enabling a team approach. Ella, in her role as manager of the centre, described her beliefs and values in transformation as a collective endeavour in her survey response stating, “I aim to support a growth mind-set through encouraging practice and persistence in the face of challenge... through ongoing reflection, self-review, policy development and communication”. This was reified in a later comment during the group interview, when Ella explained that participation in this study would contribute to their transformative process. She said:
this whole process will be really helpful to us as part of our self-review process so we can reflect on it ourselves, but also as a team and share our attitudes about it and what we have written in the surveys but not actually discussed together yet. (Interview lines 556-558)

The collective beliefs and values surrounding transformation as a collective endeavour in their work on self-review was being operationalised through the instruments of working to uphold an organisational culture which valued pedagogical dialogue and reflection, and PD as a community of practice.

Alongside working to uphold an organisational culture which they valued, PD through a community of practice was a new instrument developed to progress self-review, where more experienced teachers supported those who were less confident. Ella and Tania were two members of the teaching team who had a high level of knowledge and experience in facilitating PAP as they explained in their surveys. Ella wrote, “I have previously worked with children with special needs, alongside occupational therapists and physiotherapists; this possibly gives me a better understanding of supporting physical development”. In Tania’s survey, she talked about her specialist knowledge which she contributed to the team, “I used to teach physical education. I hold a French ‘Licence Activites Physiques Adaptees’ (Bachelor of Adapted Physical Education) and worked for 7 years as a physical education teacher with people living with disabilities”. Melody explained in her survey how the instrument of PD as a community of practice had supported her work in self-review. She wrote:

Over the last couple of months I have been inspired and challenged by a teacher who has particular strengths. I have learnt new ideas and ways of providing PAP
challenges. I believe in this kind of learning. We are a teaching team with a positive attitude to encouraging and promoting PAP and are always open to trying new ideas.

Advancing the self-review object through these new instruments of PD and working to uphold an organisational culture which they valued, enabled their collective beliefs and values in transformation as a collective endeavour to be realised. The way these instruments were being utilised to mediate the activity system to achieve success was a feature unique to this case study. Here, internal resources rather than external PD as illustrated in other cases (Chapter Five, and later in Chapter Eight), were purposed toward their goal. Therefore, later in this chapter I will argue how these two instruments worked to enhance the nature of PAP at the Funtimes Centre.

PD through a community of practice had also resulted in “planning and regular changes to resources to support variety and challenge” as a new instrument to progress self-review.

Melody explained in the group interview:

I think that one of our focuses have been providing greater variety so that there is new challenges and different things to get their interest, otherwise with limited space it can just get boring. They need that variety and freshness”. (Interview lines 73-80)

As they worked on self-review, their new rule of promoting challenge and risk was operationalised through planning. The teaching team planned and created new challenges, for example, they made a rope bridge and pulley system across the sandpit, to utilise the scope of their existing space. Ella explained during the group interview how they had thought beyond the confines of their interchangeable equipment:
We have interchangeable stuff but you can only do so many interchangeable designs. So we introduced things like the ratchets across the sandpit, we have big ropes that we have tied up and things and just tried to introduce other challenges. (Interview lines 82-84)

I observed the children engaged with the parallel rope swing bridge which the teachers had made using strapping and ratchets, elevated half a metre off the ground. The children stretched to hold the rope above their head for balance as they moved from one end to the other as the following vignette shows:

“The blue bridge”.

Look at me I can do that” says Aria, “oh look Penny can do it too. You have to stretch all the way up” says Melody. “Patricia we’re starting over at this end, because we only have one person on at a time. Sam, I don’t think you should let your hands go” says Melody, “hold onto the rope please”. (Observation 315)

On occasion, teachers practiced in ways that did not reflect their new rule, operationalised through planning and positioned to advance their self-review object, which was to promote challenge and risk. In this observation, Sam is restricted in trying to balance without holding the rope above his head. Therefore, a contradiction was evident when this new rule was enacted where “teachers’ risk anxiety determined children’s access to challenge and risk” and children became unable to develop risk assessment skills (see contradiction 1, Figure 17). Later in the chapter I explore how teachers sought to mitigate this tension impeding their work in self-review through PD and working to uphold an organisational culture where pedagogical dialogue and reflection were valued.
In pursuit of the object of self-review and in addressing teachers’ beliefs and values enacted as a tacit rule where challenge and risk was valued but prompted anxiety, teachers developed a new instrument which became a rule. In this rule, “conversations were used to support implicit and explicit rules” aimed at developing children’s risk assessment skills. A wall display detailed how it would be applied to advance the object of self-review:

We will use the following phrase to ensure simplicity and consistency, without stating or implying judgment of a behaviour.

“(child’s name)…I can see that..(state high risk behaviour), what do you think could happen?”

- Encourage child to see and consider possible dangers
- Encourage consideration of safety of self and others
- Welcome other children to contribute to discussion
- Discuss possible safer alternative behaviours or actions. (Self-review document, 29/10/14)

Melody explained how she believed that children’s knowledge and skills in risk assessment would develop as a result of these conversations when she said in the group interview:

I think that if you try and have the conversation with them rather than saying this is the rule, then hopefully if they do come back to it [the challenging or risky activity] when there doesn’t happen to be a teacher there, they’ve got some thinking about what might happen and what they might need to be careful of. (Interview lines 239-241)

I observed this rule being operationalised to develop children’s risk assessment skills which I present in the vignette, “We are pirates”.

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“We are pirates”: A conversation to develop children’s risk assessment skills.

Ella notices that Sam and Eli are running with chopsticks and waving them near Sienna’s face. Sienna becomes upset and Ella encourages her to engage in a conversation with the boys about safety with her support. “Do you want to tell them Sienna?” asks Ella encouraging her to tell them how she feels. “I don’t want you to do that” says Sienna. “That’s good, were you listening?” Ella asks the boys. “What were you using the chopsticks for?” asks Ella. “A sword” says Eli. “Well the chopsticks are quite pointy and don’t make good swords, I’m going to take those away. You know we could make swords out of cardboard, let’s see what we’ve got inside” says Ella. (Observation 352)

While this conversation sought to help the children to understand why their play or experimentation held elements of risk, the wording was somewhat ambiguous. The boys may have found it difficult to understand why the chopsticks (which were pointy like swords) could not be used. In addition, the conversation transitioned to a rule when the chopsticks were taken away. Therefore, conversations were used to support implicit and explicit rules in the PAP activity system. The teachers identified other explicit rules which were communicated to children, for example, Ella wrote, “the blue mats are considered designated landing areas and are not to be walked over”. During the group interview Tania discussed the rule established for climbing the tree, “there is always a teacher on the deck before you are allowed to climb up the tree” (Interview line 293). Teachers’ tacit and explicit rules were grounded in their beliefs and values, however, the safety regulations were perceived to work against teachers’ beliefs in how their environment should be safely managed. During the group interview Ella described the regulations as frustrating in their work to progress self-review, given the L shaped arrangement of the outdoor environment. She said:
I find them to be quite restrictive and sometimes frustrating because you are there and you know what’s safe and what works in your environment. (Interview lines 579-580)

...and it’s the soft fall and having a metre soft fall on either side of your play equipment creates a circuit which is actually more dangerous than having things up against the edges, because then you’ve got people running at full speed and people trying to get on and off the playground. Just the little things like that, which can present a challenge when you’re rearranging the playground. (Interview lines 585-590)

These comments made by Ella highlighted that “regulations were a constraint”, operating as an inflexible rule which did not take into account the specific environmental features (such as the shape of the outdoor area) at the Funtimes Centre. Teachers found that adhering to the regulations created additional safety concerns for children, for example, increased likelihood of collision. When the regulations (as rules) were in tension with planning and regular changes to resources to support variety and challenge (instrument), this contradiction impeded the teachers’ work in self-review (see contradiction 2, Figure 17). Regulations were found to be a rule constraining teachers’ work in self-review and or the PAP programme at the Sunrise, Pastel, and Funtimes Centres in this case study analysis to-date. Next, I discuss a further object being pursued by teachers in the PAP activity system at the Funtimes Centre, this was the PAP programme.

The teachers’ goals for the PAP programme object stemmed from their recently generated rule which was to promote challenge and risk. Ella expressed what the PAP programme object meant to the team when she said in the group interview, “our aspiration is that PAP not
only promotes physical development and health but also risk taking and perseverance and persistence in challenges and risk analysis” (Interview lines 74-75). Hence, this new rule to promote challenge and risk, which stemmed from their work in self-review, was viewed as an overarching rule for this object too.

In their work to advance the PAP programme, “modeling and scaffolding to support peer learning” between children was a highly valued instrument. In fact, teachers’ preferences were for children to learn from each other before seeking help from a teacher, as Ella explained in her survey response:

Modeling and scaffolding is an important part of facilitating PAP, from teachers and especially peers. I actively encourage children to observe, imitate, and seek guidance from each other in challenging PAP, before they seek the assistance of an adult.

Melody described how peer learning promoted independent learning rather than a reliance on the teacher. She expanded on this concept in her survey response:

I want to avoid them developing dependence on my assistance, rather than having the chance to learn the skills that mean they are able to do it themselves. Instead I support with words and through encouraging children to learn from each other – for example, asking another more experienced peer to give suggestions about how to do it, or encourage children to watch what someone else does in order to learn a good climbing strategy.

Teacher participation was considered by the teaching team to provide both positive and negative aspects. Potentially, it could increase child engagement with PAP, or alternatively, it could detract from peer learning. Therefore, a new instrument was integrated into the
activity system to overcome this tension, “where teaching strategies (such as teacher participation) were adapted towards their goals”. The teachers reflected on their use of teacher participation through their survey and group interview discussions. Tania responded in her survey,

Seeing a teacher involved draws other kids around and I would rather see the children participate with each other. If I stay involved for too long, I become the centre of interest and I want to avoid this at all costs. Group games and ball games are great to get involved and stay involved though.

And, the teachers talked about their participation during the group interview:

Ella: And I think that a teacher’s involvement can often attract interest as well.

Tania: Draw them.

Ella: Even if it’s just to set it up and step back.

Beth: Yeah. (Interview lines 169-172)

Ella: With the younger children though I guess the teachers presence might be more important because you are teaching those games or skills or the techniques. (Interview lines 183-184)

Tania indicated that she did not actively seek to engage with children when she wanted them to work collaboratively, as her presence might encroach on their autonomy. However, she did utilise teacher participation in group games for extended periods when this teaching strategy was considered advantageous to children’s learning outcomes. Ella had a similar response when she said in her survey, “I will engage in PAP when I consider it adds something to the play”. Such comment from the teachers at the Funtimes Centre, where
teacher participation was viewed as potentially hindering peer relationships, is a view more closely aligned to a child-centredness approach than the intent of *Te Whāriki* (Ministry of Education, 1996) and sociocultural perspectives. Several international studies have argued that such a view is commonly related to developmentally appropriate practice or child-centred teaching and learning practices (Brown et al., 2009; Harper & McCluskey, 2003; Kendrick et al., 2012; Scarlett et al., 2005). These findings at the Funtimes Centre reveal that teachers were reflecting on how their involvement may inhibit or interfere with children’s autonomy, yet in order to teach new games for children to play independently, instructional teaching and participation was needed. Therefore, modeling and scaffolding to support peer learning sometimes involved the teacher as participant when teaching strategies were adapted to their goals in advancing the PAP programme.

In pursuit of their PAP programme object, the staff supervision policy rule allocated the division of labour through the “staff roster” where the “lead teacher outside planned physical challenges”. During the group interview the teachers discussed how the planning instrument and new rule to provide for challenge and risk mediated the object of the PAP programme:

Melody: When you are setting up in the morning and you are the outside lead teacher, that’s your responsibility to ensure that there’s some interesting physically challenging play outside and you need to plan for that.

Ella: or a follow on, maybe the beam was out on Tuesday and you want to make sure the beam is out again but at a higher level that will extend on something that happened the last time. (Interview lines 276-284)
I observed such an example of a purposefully planned activity to support a PAP interest, set up by Ella who was the lead teacher outside. As Ella set up the thin beam and box activity she explained to me that, “they were interested in exploring the thin beam yesterday” (Purposefully planned activity, 24/10/14). This example demonstrates the interactions of the system elements of instrument, rules, and division of labour working to advance the PAP programme object. Having described how the PAP programme object was being pursued by teachers, I now discuss a further object where structured physical activity sessions had become a priority in the activity system.

As the teachers thought about reviewing and extending their practices through self-review, introducing structured physical activity sessions became an object of priority. Ella and Tania identified their objectives, and what this new object meant to them in their survey responses, when Ella identified, “I would like to introduce structured PAP sessions” and Tania wrote, “I would like to have more PE sessions (teacher-directed) at first”. Collectively, this team believed a balance of free play and structure worked in harmony in their delivery of a quality PAP programme. For example, Beth wrote in her survey, “I believe that children learn to challenge themselves though a mix of free play and structured teaching methods” and Tess similarly stated, “there is room for free play as well as structured learning”. Ella explained in her survey:

> Overall I believe free play to be the most appropriate and effective way for children to learn in early childhood. However I consider it important to have a balance between teacher-directed structured experiences and free play, particularly in PAP. I believe it provides an opportunity to introduce new skills, techniques, and resources.

Tania explained in her survey:
I believe in free play (I also hold a Montessori certificate). Children learn much more through their own discoveries and experimenting, managing their time free of adult’s constraints, observed Maria Montessori. However, I’m not against teacher-led activities, especially those which teach children how to use some pieces of equipment that require special care.

For this teaching team, advancing the object of structured physical activity sessions would lead to a comprehensive PAP programme where both free play and structured activities would support valued learning outcomes for children.

In order to advance the object of structured activity sessions, a new instrument of “yoga” was introduced into the activity system. Teachers extended their knowledge and practice of integrating yoga with children, by utilising PD through a community of practice. This style of PD supported the teachers’ beliefs and values in transformation as a collective endeavour.

Within PD, Tania’s expert knowledge and skills facilitated the growth of the teaching team where she was able to support more novice members. In her survey, Tania expressed her thoughts on the addition of yoga, which all the teachers had extended into their teaching practices, “at last we have started introducing yoga and stretching - relaxing sessions at the end of the day which work awesome! Many children have come forward and asked for yoga relaxing time”. The teachers’ work in advancing the object had led to yoga being valued by the teachers and the community of parents and children. I was able to observe children independently initiating their own yoga and balancing positions, where a success was evident in the PAP activity system:
“Yoga”.

“That looks like a yoga move, have you been practicing?” asks Ella. “Yeah with Poppy and mummy” Aidan says (Observation 358). The children’s enthusiasm for yoga was apparent, for example when offered indoors at mat-times, “would you like yoga or a story?” asks Ella and the children call out “yoga!” (Observation, 375).

Such occasions of yoga (observations 358, 375) demonstrated a success in the activity system when the new instrument of yoga was operationalised through PD as a community of practice to become part of regular teaching practice. These findings illustrate teachers and children both enjoyed PAP through structured physical activity sessions when the new instrument of yoga was enacted to advance the object.

As the teachers worked on advancing their object of structured physical activity sessions, other new instruments of “Playball© and Trampolining World were trialled”. In the group interview, Ella explained, “because it was considered whether we would do it regularly. We needed to consider if that should be part of our programme (Interview lines 383 & 386). In the group interview Ella explained that these new instruments would not be retained in the activity system, when she said, “we figured, well we can do that too, we don’t need to pay someone to do it we are all capable of running a session” (Interview lines 384-385). I was able to observe occasions of the teachers initiating structured physical activity sessions where teaching practices were adapted to their goals. For example, Melody identified her practices in facilitating PAP through her survey response, “in practice I do not often initiate play or lead teacher-directed activities but act to support and extend ideas already in evidence”. In the following observation, Melody has initiated a structured activity session outside, with the
beanbags and music, where the instrument of teaching strategies was adapted to meet their goals, and been operationalised to advance the object.

“The beanbags”.

“Just one beanbag each. Let’s listen to the song and see what it says to do. Just little throws Terrence so you can catch it” says Melody. “Put it on your head, see if you can balance it there, put it on your shoulder, put it on your elbow, put it on your back, put it on your stomach” Melody repeats the words of the song as the children do the actions with her. “I did it!” says Carl, “good catch!” replies Melody. (Observation, 306)

Tania had reflected on how she had molded her teaching strategies to balance the integration of teacher-led physical activity sessions within a free play learning environment, in a New Zealand context. Tania explained in her survey, “it was new to me as in New Caledonia, I used to run my lessons in a specifically designed place with kids who basically had to participate”. She described how her practices had changed in New Zealand, “I had to learn how to ‘attract’ the more reluctant ones and lead them to freely choose to be in”. These findings reveal that teachers reflected on the aims and objectives of their object which required a fluidity and change capacity. When the new instrument (teaching strategies were adapted towards their goals) was mediated toward the object, teachers were able to realise a success in their PAP activity system.

While in pursuit of their ultimate outcome of a quality PAP programme underpinned by Te Whāriki (Ministry of Education, 1996), a respect for the child, their mana, and how teachers could best support valued learning outcomes were carefully considered aspects for this team.
In their work to advance the objects, this teaching team valued the contributions each teacher brought to the team via PD through a community of practice and their work to uphold an organisational culture where dialogue and reflection were valued. In this chapter I have described how self-review was advanced when these instruments were operationalised, resulting in teachers constructing new outdoor challenges, overcoming space constraints, developing new rules, and each of the team extending their practices in PAP. Therefore, having established the collective activity system of PAP, the following section discusses the contradiction revealed therein (see contradiction 1, Figure 17) and follows with how PD as a community of practice, and working to uphold an organisational culture which they valued, was operationalised to relieve this tension. This contradiction was evident when teachers’ beliefs, values, and practices were not aligned, generating a new rule where teachers’ risk anxiety determined children’s access to challenge and risk. When enacted this new rule was in contradiction to their rule to promote challenge, and hindered self-review.

A Contradiction Existed When Teachers’ Risk Tolerance Was Low

While the teachers’ strongly held beliefs and values in promoting challenge and risk was a rule in the activity system, it was sometimes superseded by teachers’ risk anxiety which became a contradiction in their goal for self-review. The teaching team acknowledged that their response and tolerance to challenge and risk was changeable and dependent on their sense of wellbeing. For example, during the group interview Ella said, “but you will always have things that on one day are okay for you and the next day are not” (Interview line 639). Melody agreed, providing her own example of how this manifested in practice, “but you know with these planks, I had kids sliding down them and they asked me to hold them. I thought, okay these aren’t very secure today, but oh well, I’ll just hold them” (Interview lines
Melody reflected that on this occasion she supported this challenge, whereas on another day, she may not have. In the following vignette, “I’m making a bridge”, risk anxiety prompted a contradiction and impeded Ella’s work on self-review, and later, in the next vignette “I’m going to go backwards”, Ella’s high level of tolerance for risk enabled her to advance the object, where risk anxiety was not a factor. These vignettes demonstrate how teachers’ levels of risk tolerance were changeable and worked to either impede or progress the self-review object.

“*I’m making a bridge*”.

Harley is holding a long, thin plank by the red box. “Do you need some help?” asks Ella. “I’m making a bridge” says Harley as he balances it between the tops of the red and green boxes. “It’s a thin ramp, it’s very narrow” says Ella as Harley climbs the outside of the red box in readiness to cross his bridge. Ella watches as Harley goes slowly, a few steps along she takes his hand and holds it until he reaches the green box. As Harley turns around to walk back to the red box one end of the plank falls onto the grass. “Can you put it back on?” asks Harley. “That’s not very safe, how about we take it to the sandpit, it’s got a soft landing and it’s closer to the ground” says Ella. Harley makes a moaning noise as he climbs down the outside of the box. Ella puts the plank across the sandpit where it rests approximately 30 centimetres above the sand. “Come and try it” Ella says to Harley, he looks at the bridge that Ella has made but moves to the water play area instead. (Observation 311)
“I’m going to go backwards”.

Terry is experimenting with the plank attached to the red box as he sets himself a challenge. Ella watches as he goes to the water trough and brings back a watering can and begins to pour water over the thin plank. “That will make it really slippery, just put it down here” Ella says, directing Terry to just water the bottom of the plank near the ground. Henry is also using the red box and planks, and Terry puts his arm out to balance on Henry as he makes his way to the top. The boys laugh as they wobble on their planks, “try not to push on Henry when you overbalance” Ella says to Terry. Terry and Henry are on top of the red box and are looking around, they seem to be contemplating how they are going to come down. Henry starts to go down backwards using the cut-outs in the red box to put his feet in, using them like a ladder. “Why don’t you go down like that?” Ella suggests to Terry pointing at Henry. Instead, Terry backs up to the thin plank, “I’m going to go backwards” he says stepping onto the plank as he balances by leaning forward. “Watch out for the slippery bit” says Ella as Terry makes it to the ground. He immediately starts to go back up the plank. “Is it more difficult going up or down?” asks Ella just as Terry falls off. “Oh it’s harder going up” says Ella. Terry tries again going forwards and backwards. As he takes a break, Alice has a turn, “oh good job” says Ella. “I can do it” says Theo as he inches up the plank, “good on you” says Ella. (Observation 322)

Just as the case study findings from the Sunrise Centre (Chapter Four) and the Limelight Centre (Chapter Six) revealed, teachers’ espoused beliefs and values at the Funtimes Centre were not always reflected in practice resulting in a contradiction in the PAP activity system. Teachers are highly influential in their role in an early childhood environment as they make
decisions about the delivery of the programme, what is available in the environment, and the rules that govern how children will engage with the programme and resources (Greenfield, 2010; Storli & Hagen, 2010; Stephenson, 1998). Therefore, children’s experiences within the PAP programme will be influenced by teachers’ beliefs, values, knowledge, skills, self-efficacy, and confidence (Coleman & Dyment, 2013; Copeland et al., 2012; Martin, 2011; Stephenson, 2002; Storli & Hagen, 2010; Maynard & Waters, 2007). Underpinning all of these factors is the teachers’ sense of wellbeing, because how teachers feel (e.g. fear or anxiety), may affect how they respond to situations, such as children’s engagement with challenge and risk (Copeland et al., 2012; Wyver et al., 2010). In the vignette “I’m making a bridge”, Ella’s risk anxiety and fear for Henry’s safety became a contradiction to her belief and value where challenge and risk was valued to advance self-review. However, on the following day Ella portrayed a greater sense of wellbeing and increased tolerance to risk. She supported and encouraged challenge and risk, illustrated in the vignette “I’m going to go backwards”.

The boxes and planks were often referenced in terms of challenge and risk, and during the group interview Ella spoke of the planks as being, “quite controversial” (Interview line 186) which elicited agreement from the team. This was because each teacher held different views about what was considered safe, and differing levels of risk tolerance when utilising this equipment, often influenced by the age of the children using it. During the group interview Ella explained why the boxes and planks elicited risk anxiety when she said, “we don’t have boxes with slots in them so there’s no way to actually attach them [the planks]” (Interview line 189). This meant that children who were strong enough could freely move the planks and set their own challenges, and the planks were apt to move out of position, as Ella said, “they will try some really incredible risk taking with the planks” (Interview line 192). Hence,
the boxes and planks were equipment which the teaching team recognised as prompting a level of risk anxiety.

Within the teaching team there was disparity between the teachers’ levels of risk tolerance, and risk tolerances were found to fluctuate. Ella explained in her survey response how these fluctuations impacted the PAP programme:

All teachers have different ideas of what they consider to be ‘safe’, this is something that can be affected by the environment and therefore always changing. These ideas can never be all communicated all the time which can lead to inconsistencies, possibly shut down learning, or put another teacher in an environment in which they feel unsafe.

During the group interview the teachers discussed their view of children as capable, confident learners. For example, Melody expressed confidence in the children’s own risk assessment skills and capabilities when in the group interview she said, “but it is amazing how much they know about the equipment and the limitations and they can manage a lot of it quite well on their own” (Interview lines 227-228). Even though this contradiction was previously evidenced in Tania’s practice through the vignette “The blue bridge”, Tania expressed that she had a high level of risk tolerance when she wrote in her survey, “I totally support risk taking, even though I feel horribly guilty when a kid hurts themselves. You can’t expect to grow up and become a strong, resilient person if you don’t try and fail before succeeding”. Tania’s comments resonate with Wyver et al., (2010) who suggested that all children confronted with new situations and challenges develop important problem solving skills such as learning from falling. An overemphasis on safety and protection toward any age group can devalue children’s capabilities promoting them as vulnerable rather than resilient. What
results is a loss of freedom for children to explore in early childhood settings, which is an ideal context for children to learn and challenge themselves. These findings at the Funtimes Centre reveal that an individual teacher’s differing tolerance to risk did, on occasion, lead to challenges being removed due to risk anxiety impeding their work in self-review. Copeland et al. (2012) suggested that teachers as key decision makers in the playground must have support to address these barriers and enhance children’s engagement with challenge and risk. These authors suggested interventions which could focus on improving teachers’ self-efficacy and confidence through targeted training. At the Funtimes Centre this was being addressed through their instruments PD as a community of practice and working to uphold an organisational culture which valued pedagogical dialogue and reflection.

Through utilising these two instruments the teaching team worked to ameliorate risk anxiety being enacted as a rule, impeding the object. In her survey response, Ella explained how these instruments supported her pursuit of the self-review object by raising her tolerance to risk:

It’s really important that we discuss how things are affecting us, and getting support and ideas from each other. Something I consider important in regards to having confidence with PAP is knowing when I am not comfortable with certain play or a particular challenge. I aim to consider what I need to do to make it feel ‘safe’ enough for me, enabling the child to continue toward their goal, without quashing their confidence, and we’ve talked about that. This may mean more support or supervision, discussing and establishing a set of rules, or encouraging children to analyse risk and test safety measures with my guidance.
During the group interview the teaching team discussed how they had been reflecting on their support for the younger age group, where some teachers had identified that they had less tolerance for risk and were reluctant for younger children to move the planks themselves:

Melody: and we were thinking we would never do that with the younger group

Tania: but they may be able to manage it

Ella: I stopped it this morning, or was it that I was overcautious you know-

Melody: Yeah and you are always kind of wondering about that

Tania: we talk about these sorts of things to help us to extend ourselves in allowing children to take risks, we want children to be confident and to decide themselves if they should do it, not just shut it down

Melody: Because you can’t be there every second and so the more that children can be considering safety and risk themselves the better for their life. (Interview lines 233-244)

These comments highlight a range of tolerances for challenge and risk, and through their PD discussions and organisational culture they were working to elevate their tolerance levels to enable risk and challenge. There are synergies between these findings and several studies which posit that teachers hold different perceptions over what is considered safe in the environment and when limits should be applied (Copeland et al., 2012; Stephenson, 2003; Wyver et al., 2010). The teachers at the Funtimes Centre sought to acknowledge what made them anxious in order to find strategies to ameliorate anxiety. In this way, PD and working to uphold an organisational culture where dialogue and reflection were valued were instruments used to alleviate the tension and reduce the occurrence of risk anxiety becoming a contradiction which impeded their work on self-review.
The Value of Open Dialogue Within a Supportive Organisational Culture

In this section, I argue how the organisational culture of a centre can offer a supportive environment where teachers are able to share and discuss areas of contradiction and tension in their PAP activity system. Effective leadership supports an environment where open dialogue is valued (McLeod, 2002; Mitchell, 2007, Taylor, 2011). Discussions within teaching teams to consider their image of the child are central to developing, reviewing, and challenging practice (McLeod, 2002) enabling a transformative process in the nature of PAP. An organisational culture which values pedagogical dialogue and reflection mediates advancement in the objects of the PAP activity system.

An organisational culture is enhanced when teachers feel valued and supported in honest exchanges about their teaching pedagogy, reflections, and innovations toward continuous improvement (Taylor, 2011; Thornton, 2006). In her leadership role at the Funtimes Centre, Ella approached the articulation of her beliefs and values in a courageous and honest way, instilling in others the same reflective practice. She challenged her practices and openly shared these with others to critically examine the contradiction evident in their activity system. Opening yourself and the centre to scrutiny and to discuss issues that you are still developing ways to address is a difficult notion. However, studies have shown these as valuable in instilling a culture toward improvement (Kiley & Jensen, 2003; Taylor, 2011; Thornton, 2006). This supportive culture at the Funtimes Centre saw teachers working together in a community of practice toward a shared vision with the image of the child as a central feature in advancing their PAP activity system objects. Contradictions and tensions in the activity system became agents for change in moving the system forward.
Teachers’ views of children substantially affect educational practices (Dockett & Fleer, 2003; Hatherly, 1997; MacNaughton & Williams, 2008; McClintic & Petty, 2015; McLeod, 2002). At the Funtimes Centre, teachers had articulated their shared image of the child and their aspirations where opportunities for challenge and risk were central to developing learning dispositions. These dispositions included perseverance, persistence, resilience, and competencies in analysing and managing risk. The teachers at the Funtimes Centre consciously considered how to enact change as they set aside time to discuss, reflect, and critique their patterns of thinking and acting. For this teaching team, success in advancing self-review and affording children opportunities for challenge and risk stemmed from PD and organisational culture to raise their tolerance to risk. For example, Ella developed strategies with her team to make these occurrences feel “safe” for her. Ella deconstructed her practice in order to reconstruct it in a way that reflected her beliefs and values for challenge and risk more consistently. Teachers at the Funtimes Centre were motivated to continually review strategies to support children’s learning experiences. Gibbons (2005) stated, “organisational culture shapes how educators in early childhood settings behave, and therefore the experiences provided for children” (p. 24). An organisational culture which is supportive of open and honest exchanges helps to ensure that teachers get the support that they need. At the Funtimes Centre the teaching team worked together to ensure that they each felt supported and able to talk about their fears and anxieties. Together they identified strategies to overcome barriers to children’s engagement with challenge and risk, and a success was realised in their PAP activity system when teachers’ beliefs, values and practices aligned.
What Conclusion Can Be Drawn From These Findings at the Funtimes Centre?

Even though teachers were challenged by a spate of recent accidents in the outdoor environment, teachers remained passionate in promoting challenge and risk (as a rule) in advancing self-review. Several instruments were operationalised to advance this object, including self-review tools, adapting teaching strategies towards their goals, planning and regular changes to resources, PD through a community of practice, and working to uphold a supportive organisational culture. Regulations as rules were found to create a tension with the planning instrument when teachers managed the placement of equipment in the outdoor environment. These findings are consistent with those of the Sunrise and Pastel Centres, who also found regulations a constraint, as discussed in previous chapters. Other instruments also became rules prioritised to progress self-review and alleviate tensions, and included conversations used to support implicit and explicit rules and the staff supervision policy. These rules were mediated through the division of labour element where two teachers supervised outside allowing teachers to engage in these conversations and help children develop their own risk assessment skills. However, the findings at the Funtimes Centre revealed that when teachers’ tolerance to risk was low, teachers’ risk anxiety determined children’s access to risk and challenge. Hence, when teachers’ beliefs, values and practices were misaligned, a contradiction impeded the self-review object. Such an example was provided in the vignette, “I’m making a bridge” and “The blue bridge”. A success was evident in the PAP activity system when PD and a supportive organisational culture were operationalised to reduce risk anxiety where this contradiction was mitigated. In addition, these instruments supported the team in highlighting their concerns, increasing their sense of wellbeing, and offered PD to teachers requiring support. Through these instruments teachers gained an appreciation of others’ perspectives and skills in their collaborative work advancing their objects. Subsequently, these instruments aided the transformation of the
nature of PAP at this centre. These findings at the Funtimes Centre offer a contrast to the Pastel Centre (Chapter Five) and the Rainbow Centre (Chapter Eight) as PD was developed within their teaching team rather than externally sourced. These findings add a different perspective when answering the research questions: what are teachers’ aspirations for PAP and how are they able to realise these?, and what are teachers’ beliefs and values surrounding their role in facilitating PAP? which are discussed in Chapter Nine.

In advancing the PAP programme teachers’ beliefs and values were more closely aligned with a child-centred approach, where teacher participation was considered to detract from peer learning (Harper & McCluskey, 2003; Kendrick et al., 2012; Scarlett et al., 2005), in contrast to the intent of Te Whāriki (Ministry of Education, 1996). However, in order to teach specific skills and to motivate children to engage with PAP, the teachers at the Funtimes Centre saw benefits to adapting their teaching strategies to their goals. These findings are consistent with those who argue learning opportunities are advanced through the provision of teacher initiated activities where the teacher as participant plays a key role (Hui-Tzu Wang, 2004; Hussain, 2011; Vazou et al., 2016; Zachpoulou et al., 2006). Therefore, alongside modeling and scaffolding, teacher participation was utilised to advance the object. The PAP programme was progressed when the lead teacher outside utilised planning and regular changes to support variety and challenge, reflecting the teams’ overarching rule for the PAP activity system.

Structured physical activity sessions was a further object of the activity system which reflected the teachers’ beliefs and values in balancing free play with structured activity. This object was mediated by the instrument of PD through a community of practice, and their
work to uphold an organisational culture which valued pedagogical dialogue and reflection. Tania took a key role in PD and supported the team in developing knowledge and skills to facilitate yoga, and yoga became a new instrument to advance this object. Yoga was a success in the activity system and a regular feature, illustrated through the vignette, “Yoga”. Yoga was observed to be requested by children and explored independently through their free play. This new instrument provided an additional means for teachers to facilitate PAP with children; it was a successful addition to the programme. A further instrument used to mediate this object was Playball© and Trampolining World which were trialled. However, the team decided that they were capable of offering a similar style of structured physical activity session without the added cost, providing synergies with the findings at the Pastel Centre (Chapter Five). This instrument was therefore discarded in favour of teaching strategies adapted to advance their goals where physical activity sessions were generated by the teachers. The vignette “Beanbags” provided such an example where a success was evident in the PAP activity system. Such findings add to those of Hussain (2011) and Mitchell et al., (2008) who argue intentional teaching and teacher-child interactions build complexity into the curriculum, aiding the development of children’s knowledge, skills, and attitudes.
Chapter Eight

A Case Study of PAP at the Rainbow Centre

This chapter introduces the Rainbow Centre where I describe the PAP activity system where three immediate objects were being pursued. These were “the PAP programme”, “self-review”, and “parent education”, which were prioritised in order to cater to the changing needs of their learning community. I describe how teachers’ risk anxiety prompted a significant contradiction in the activity system, impeding their work in the PAP programme. As a result, limits were placed on children’s self-directed learning and autonomy in PAP. Finally, I discuss how the teachers’ work in advancing parent education was successful in terms of parents’ increased understanding of the valued learning developed through PAP. Family events and use of the local park helped teachers to develop a collaborative environment which resulted in increased parent involvement in PAP with their child while at the centre. In addition, parents were more open to their children engaging in challenge and risk. Teachers saw their role as advocates for PAP as rudimentary to a healthy lifestyle for the entire family. Finally, I summarise the conclusions reached in relation to the teachers’ work in self-review and the PAP programme.

An Introduction to the Rainbow Centre

The Rainbow Centre was operated by a large regional public early childhood organisation. The centre was a non-profit community organisation and parent help was encouraged to support the teachers. The teaching team comprised of Liz (the manager with 21 years
experience), Shalini, Kelly, Tripti, and Nathan (whose combined experience spanned 33 years between them). While one teacher was away on leave, Nathan, a regular reliever, was working in the team on a full-time basis. The centre was licensed for 40 children aged between 2 and 5 years. Across my three days of observations the mean number of children attending was 32 in the morning and 25 in the afternoon. The majority of the children enrolled were New Zealand European (51%), with 8% Māori, 4% Tongan, 4% Chinese, 2% Indian, and 31% of other ethnicities. Most of the children attended the centre three days per week over the full daily operating hours of 8:30 a.m. to 2:30 p.m. Access to the outdoors was freely available to the children throughout the day.

On arrival, I was drawn to the vast and expansive outdoor area which extended far beyond my line of sight. In addition, the centre was adjoined by a large public reserve which included a children’s playground. The outdoor area contained an extensive array of mature trees and gardens arranged across multiple levels (see Figure 18, p. 220). There were pathways, seats, and recreational areas of different surfaces including safety matting, concrete, grass, and bark. Bridges and obstacle courses had been created between two thatched pergolas, with a set of built-in swings alongside. Nooks and crannies created by flax and large trees made hideaway places. Concrete pathways were used as bike paths, leading to a concrete area. The built-in cover over the sandpit and carpentry area, and several other sunshades, supported the use of the outdoor area irrespective of weather. The inside area was also used to support PAP through dancing with ribbons and scarves, and dress-ups. During my first day at the centre, I observed children requesting songs from a range of CD’s. It was clear that this was an established activity with children singing along as they moved.
How the PAP Activity System Operated at the Rainbow Centre

It is from this backdrop that I introduce you to the PAP provision based on the data gathered during my week at the Rainbow centre, as shown in Figure 19 (p. 221). In this section, I describe how these system components were interacting as teachers worked to advance their objects.
Contradictions:

1. Regulations vs. changes to the environment and resources to cater to younger children
2. Risk anxiety vs. accentuating challenge and risk

Figure 19. Model of a collective activity system at the Rainbow Centre in the PAP space.

The desired outcome of the PAP activity system at the Rainbow Centre was “a quality PAP programme underpinned by Te Whāriki”, as part of the curriculum. In working to achieve this outcome, three objects were prioritised at the time of my data gathering: self-review, the PAP programme, and parent education.
The object of self-review became a priority in the PAP activity system when the Rainbow Centre changed to a full day model, resulting in a broader, mixed age-range attending. Tripti explained during the group interview:

Now we have a mixed age group, we used to have them separate in the morning and afternoons (Interview line 24).

[We used to have] Four plus in the morning and three plus in the afternoon (Interview line 220).

Now we have a mixed age group [all day] with 2-year-olds (Interview line 222).

Due to this change in the age-range attending, “self-review tools” were used to evaluate the existing PAP programme. Liz explained in the group interview, “because of all the different age groups and the different equipment, we felt that we had to be looking at it [the PAP programme]” (Interview lines 309-310). To this team the object of self-review meant “ensuring their PAP programme met the needs of the children attending”.

PD was used to support the teachers’ work in self-review and the teaching team had attended a range of courses about PAP made available by “PD through their organisation”. Liz explained how the instrument of PD led to “new resources, networking opportunities, knowledge, and skills” being used to advance self-review:

That’s how we found out about it [Sport Waitakere course] ... and got into Jump Jam, ... and got the new Gill Connell book because we had talked about it in a course that
we went to. We have an interest in going to the yoga course, that’s all part of our review. (Interview lines 341-346)

Liz considered that these new instruments (PD and resources) helped support her team in understanding the importance of physical activity in their work in progressing self-review, when she wrote in her survey, “I have bought books etc as well as Jump Jam so that the team all has an understanding of fitness for children”. In addition, Liz considered that adequate resourcing of the PAP programme was vital to the functioning of her team as they pursued their self-review goal, as she explained during the group interview:

When I came here, I brought a whole shed of Frisbees and things that you can throw and bounce. They didn’t have any kind of physical education things. And so now we’ve got all the resources and we use them all the time. (Interview lines 33-37)

On my first day at the Rainbow Centre, I was able to observe how these two instruments (PD and resources) were operationalised to advance self-review when both free expression and synchronised action songs were being explored through Jump Jam and other music and movement activities. In this observation, Liz put on the Jump Jam video and participated with the children in indoor PAP as they either followed the actions of the instructor or made up their own:

“Jump Jam”.

“It’s marching now, swing your arms big!” calls out Liz as she does the actions, “round we go, walk the dog” she says as she sings along, “who let the dogs out, woof, woof, woof, who let the dogs out”. “Good barking Ashleigh! Scissor legs, now star jumps!” says Liz, “running! Your legs are going so fast Tony, I like that move you’re doing” encourages Liz. It is high energy aerobics, with fast-paced catchy
songs. During this observation 18 children participated for 20 minutes, with Liz as teacher participant. (Observation 3/11/14)

During the group interview, Liz and Nathan described why these new resources supported their self-review priorities in meeting the needs of their younger children:

Nathan: What we do indoors on the mat with some very young children is lots of synchronised motions and actions because you need to do that with very young children, and that speaks very much to their fine motor control.

Liz: Yeah we do a lot of dancing plus we’ve bought Jump Jam and we do a lot of that kind of dancing movement which is really fun with them as well. (Interview lines 214-218)

PD, new resources, and the teacher as participant all culminated to support the teachers’ work in self-review to support the mixed age group of children in PAP experiences.

The teachers’ work in the self-review object also prompted other “environmental changes and resources to cater to the younger children” attending. In the group interview, Liz explained, “I bought smaller boxes because they couldn’t climb onto the bigger boxes (Interview line 180). Some children when they started couldn’t even walk up the stairs because their little legs were too short” (Interview lines 310-311). I was able to observe teachers setting up the outdoor equipment to ensure that challenges were available to meet the needs of their mixed age-range; for example, when setting up a balance challenge with the planks and boxes:

“We’re going to put this one here, so we can balance the skinny one” says Liz as she balances a skinny plank across the two large boxes. “Then this one here so the little ones can practice as well” says Liz as she sets up a replica with half-sized boxes,
“that’s a good idea” says Tripti. Liz says to me, “we are really limited here (pointing to the safety matting area) with what we can do with space around the edges and the limits”. “What about over here? We’ll have to do it like this” says Liz as she repositions the equipment several times. (Observation, 378)

In advancing self-review, the teachers gave considered thought to environmental changes and resources which would aid inclusion of all abilities; however, only a small section of the outdoor area provided regulatory safety fall matting. In this part of the outdoor area, where challenging activities were arranged, teachers considered the regulations to be a constraint to their work in self-review. This tension manifested when, in order to meet the needs of the children, two balance activities were required and the regulatory safety matting area was limited. Equipment was then moved to ensure compliance to overcome the constraint generated by the regulations as rules and changes to the environment and resources to cater to younger children (instrument). This contradiction is depicted in Figure 19 (p. 221). A further object which emerged from the analysis of the PAP activity system was the teachers’ pursuit of the PAP programme, which I now discuss.

The PAP programme was identified as an immediate object where the common purpose was to increase children’s opportunities for risk and challenge. Nathan identified his aspirations for the PAP programme in his survey response, stating, “I would be happy with more risky forms of physical activity”. For Liz, there was a need for the centre to be responsive to their multicultural learning community, where challenge and risk may not be considered an area where valued learning occurred. She considered the PAP programme an object through which to ensure children could explore such opportunities, as she explained in the group interview, “it seems like in a lot of cultures risk taking isn’t valued. So I think we have that
responsibility to have risk and challenge in our programme and it’s just as important as any other curriculum area” (Interview lines 41-43). Therefore, to this teaching team the PAP programme object meant accentuating opportunities for challenge and risk in their learning environment.

Collectively, teachers believed that the PAP programme would be advanced through their support of children’s learning in a child-led, play-based curriculum supported by resources and provocations. For example, Nathan and Tripti highlighted in the interview, “it’s a child-led programme” said Nathan, and Tripti reiterated, “it’s child-led” (Interview lines 98-99). Within their survey responses the teachers identified how their individual beliefs and values were drawn into the collective in their work to progress the PAP programme. Nathan wrote, “I believe in free play, modelling and scaffolding, setting up the environment where there are provocations, supporting children’s goal setting, and challenge and risk”. Through her survey, Tripti explained, “children should be given enough opportunities to explore, play, and make choices. We let children make their choices and we support them with the resources”. Liz paralleled these beliefs with her own, as she responded in her survey, “we believe in learning through play”. In the group interview Liz explained how the teachers shared similar kinds of attitudes and actions surrounding their goals for advancing the PAP programme when she said, “we all believe in the importance of physicality and we all know if you work here that’s what you do, and people do it to the best of their ability” (Interview lines 246-247). These beliefs and values expressed by the teaching team became collectively held rules, not only to advance their immediate PAP programme object but also central to attaining their ultimate outcome of a quality PAP programme underpinned by Te Whāriki (Ministry of Education, 1996).
Through their work in advancing the PAP programme, Liz wanted to provide an environment where children could experiment and “set their own goals”, and as she explained in her survey, “I do role model activities like how to throw balls...but encourage children to experiment with their own ideas/games. I talk to children about setting goals”. The CHAT analysis revealed “teaching strategies” (instruments) were positioned “to accentuate challenge and risk” (rule) where children in the community element were able to set their own goals and “adapt resources to meet their goals”. The interactions of these system elements advanced the PAP programme object which I was able to observe. For example, I noticed that Liz prioritised challenge and risk, when she suggested ways the children could adapt activities to increase their level of difficulty. She said, “if you want to make it harder, you pull the mat back so you have to do a bigger jump. Oh Paul’s moving it back further” says Liz, “yay you did it!” (Observation 379). During the group interview Liz described how important it was for children to consider new ideas for risk and challenge:

I think that autonomy of actually having the say on what kind of challenges they want to do is good for them too. We are the safety experts but they will do their own ideas, and they’ll help set up challenge courses, so we plan things together. (Interview lines 113-116)

My observations revealed such evidence of shared planning and “children’s free access to the storage sheds and equipment”, as in this example, “Finnigan help, help” says Liz. Liz and Tammy are carrying a plank from the shed to the playground. “We’re going to change the playground around today. Do you have some ideas?” (Observation 377). The PAP programme was advanced when the instruments of “a collaborative approach to planning”, and teaching strategies operationalised the rule to accentuate challenge and risk. The
interactions of these system elements supported children’s exploration where they could freely access equipment to meet their needs (in the community element of the activity system).

In their work to progress the PAP programme, “regulations” became a contradiction to the new rule to accentuate challenge and risk and became problematic to children’s own goal setting, and collaborative planning. Liz explained in her survey, “regulations can be annoying and unrealistic if children want to continue to challenge themselves” and this was expanded further in the group interview:

Liz: It impedes our ability to do things if we stick to the regulations. It would be quite boring. We wouldn’t be able to climb some trees and do other things. I think the regulations are out of date for the kind of physical life that young children lead in New Zealand. I don’t think that they need to be pampered as much as the regulations say….they need to be able to challenge themselves more,…the regulations should be more realistic. Children are going to public parks and climbing higher than they are allowed to climb at kindergarten,…we’ve got people [teachers] that are trained to facilitate challenges and yet we’re the ones that have to stick to the regulations that don’t help us do that.

Nathan: mmm

Shalini: Yeah

Tripti: Yeah. (Interview lines 354-365)

The teaching team were united in their belief that the regulations were a constraint in advancing the PAP programme which enabled challenge and risk and where children could
set their own goals. However, during my time at the centre I did not observe an example of a breach to the regulations where this contradiction was evidenced, so this remained a perceived constraint in the PAP activity system.

The “supervision policy” was a further rule in the activity system positioned to protect the safety of teachers and children in their work to progress the PAP programme. This rule was enacted through the division of labour by allocating “two teachers outside”. The policy stated:

[The organisation] is committed to keeping children and teachers safe in the kindergarten environment. All kindergartens have a policy that addresses the issue of staff being alone with children. It is a requirement that teachers take all appropriate steps to keep themselves and the children in their care safe by alerting another staff member when it is necessary for them to assist in toileting or other caretaker tasks. 

(Condensed Policy and Procedure for Parents, 7/11/14)

This rule was used to advance the PAP programme by prioritising two teachers to supervise their large outdoor area which the teachers discussed during the group interview:

Tripti: And the good thing is there are two teachers outside.

Shalini: We need that for the large area and the supervision...one person at the top and one person at the bottom so we have the area covered. (Interview lines 251-253)

The supervision policy, as a rule enacted through the division of labour, enabled teachers to advance the PAP programme through shared supervision, allowing more scope to deploy teaching strategies. Had only one teacher been allocated outside to provide both supervision
and active support of children’s PAP, safety and the teachers’ ability to advance the PAP programme could have been diminished.

Teaching strategies were considered an important instrument in their work in the PAP programme. For example, teachers shared their views on their use of participation through their survey responses. Tripti shed light on her cultural influences, which Maynard and Water’s (2007) argued could impact on teachers’ practices and their self-efficacy. Tripti said, “yes I do engage with PAP alongside children but not as much as kiwi teachers do. My upbringing makes me a little uncomfortable to be too free in front of others”. Liz was unequivocal in her value of participation which she felt was reciprocated by children, when she said, “love it and they love it too. They will come and ask me to play physical games with them”. Kelly was also an advocate whereby participation became a platform to model how teachers also engaged in new challenges. She explained through her survey how her participation operationalised the new rule to accentuate challenge and risk, “I like them to see us playing and getting involved alongside them and trying things that we may not have tried before. It’s good for them to see us pushing ourselves too”. These findings are consistent with several studies where teachers believed their participation stimulated learning (Chow & Humbert, 2014; Frost, 2010, Kern & Wakefield, 2007; Nuttall, 2003; Scarlett et al., 2005). In one recent Canadian study, teachers argued “if we are not active, then how can we expect the children to be active?” (Chow & Humbert, 2014, p.67). These authors concluded that teachers who were physically active themselves understood the importance and value of regular participation. My findings paralleled this, when, during my week at the Rainbow Centre I observed each of the teachers participating with the children, such as in this example of Shalini walking on the stilts:
Tammy loses her footing. Shalini bends down to help get her foot in, “hold onto the rope” says Shalini, “left, right, left, right”. Sidney’s stilts have come off her feet, “try again Sydney” says Shalini as she gets off her stilts to help Sidney get back on. 

(Observation 411)

Within this observation, Shalini also utilised practices of encouragement, modelling, and scaffolding, as she too engaged with the challenge on the stilts. In the next observation Liz used teacher participation as a means to support specific skill development as she supported children’s knowledge and skills in using the comet balls:

“The comet balls”.

“Do you remember what you have to do with that? You hold the white bit (ball) and put it by your shoulder, take a step forward and then over, that makes it go far when you throw it overhand” says Liz as she demonstrates it several times and models and scaffolds the children’s skills in holding and throwing the comet balls. “That’s great throwing Shaun”, Liz says, “watch Shaun, he can throw it really well”. (Observation 386)

Within these observations, teaching strategies (instrument) and accentuating challenge and the supervision policy (as rules) were coordinated to advance the PAP programme object. As a result, children engaged in rich interactions with their teachers where learning outcomes were extended as a result of the teachers’ work in pursuit of the PAP programme object.

Teacher participation was not unilaterally applied to all teaching and learning opportunities, particularly when teachers considered such a practice could potentially hinder children’s autonomy in the PAP programme. In some learning experiences teachers considered their
continued participation could contravene the intent of their child-led programme. Rather, teachers set up activities as provocations to incite interest and engagement, used as a teaching strategy discussed during the group interview:

Nathan: We are very big on setting up a provocation and extracting ourselves from it. Once it gets going, leave, let them own it… and that also speaks to that autonomy (Interview lines 120-122).

Tripti: It’s a child-led programme. So we initiate it and then they take over, so they become the teachers. In play sometimes you have to be with them or sometimes you just observe them and let them lead it (Interview lines 134-135 & 137-138).

I observed Liz generating a provocation when she took a hoop to the top of a grassy hill, illustrated here, “...she rolls it down and chases after it running down the hill. Two boys and one girl join in. Liz participates again before going inside (Observation 385). These findings from the Rainbow Centre provide examples of teachers adapting their teaching strategies in response to play contexts. Their teaching strategies were purposed to their intent of prioritising valued learning outcomes for children in a child-led curriculum. In the activity system, “teachers’ beliefs and values enacted as rules” constituted quality practice operationalised through the instrument of teaching strategies in their work to advance the PAP programme.

When teachers’ risk anxiety overshadowed their rule to accentuate challenge and risk, a contradiction was generated in the activity system impeding their work in the PAP programme. My observations revealed these instances to be most prolific when the red box activity was set up as a provocation, where many limits were applied to children’s
exploration. For example, “wait ‘till she’s gone” Shalini says, “not there, go up the ladder” (Observation 406). Later in the chapter I discuss how this contradiction was working to constrain the PAP programme object illustrated through the vignette “The red box activity”. Here the instruments, rules, and community elements were in contradiction when a new rule was generated where “teachers’ risk anxiety influenced children’s engagement with challenge and risk” (see contradiction 2, Figure 19).

Parents were valued members of the community in the PAP activity system, and were considered vital to the teachers’ work in advancing the PAP programme. As the Rainbow Centre was a community organisation, parents spending time in the centre was encouraged and expected to support the division of labour. This was because “supervision was supported through parent contribution” and “younger children required additional support”. Kelly explained in her survey response, “I think parent involvement and help is important and this has fallen off lately and with a lot of younger children it would be really helpful. We need to encourage more parents to spend time here”. In reading through the teachers’ survey responses about the reported role of parents, two factors emerged: that “parent help had declined” and was needed to support this younger age group, and “some families who lived in apartments or from other cultures were nervous about PAP”. For example, Shalini wrote, “many parents who are unable to provide large open play spaces due to lifestyle really value this as do other cultures where this type of play is new but they are also concerned or nervous”. Nathan identified how prioritising parent education could address this when he wrote in his survey, “parental reluctance [surrounding PAP] is not uncommon and requires tactful education of parents”. Both of these factors became a catalyst for the new object of parent education. To this teaching team, the object of parent education meant “both
increasing parent’s involvement in, and knowledge about PAP, and the valued learning therein”.

In order to advance the object of parent education, PD, new resources, knowledge, and “learning stories” were instruments in play in the system. Liz explained in the group interview:

We have just bought the Gill Connell book and we have got other books and we go to courses so that we can really articulate the brain gym, and the left and the right side of the brain and the physical movement attached to cognitive ability and we’ve started to put that in our [learning] stories because we want to share that with parents. Because they may not understand that and it’s our job to share all the benefits of physical play. (Interview lines 69-79)

In her work in advancing parent education through learning stories and new resources, this extract demonstrates how Liz utilised a recently purchased book to exemplify learning developed through PAP:

Ben has been developing his physical confidence. He takes part in challenge courses (see photo’s). He is good at riding the bike now that he can zoom down the hill with his friends beside him. In her book about the moving child, Gill Connell the author explains how when children play with things on wheels they get to test their own power and control with their bodies. She also says that play activities that incorporate big moves challenge children to stretch themselves physically and mentally and helps them to know that they really can do it. (Ben’s portfolio, 7/11/14)
Children’s learning stories with photographs of children engaged in PAP, and developing a range of skills, knowledge, and attitudes, ensured that learning through PAP was visible to parents. New instruments of PD, resources, knowledge, and learning stories aided their work in parent education.

In her work in advancing parent education, Tripti became a strong advocate for supporting growth and understanding of the benefits of PAP for parents of other cultures. Studies have shown that in some cultures learning is not valued in the outdoor context and subject-based content knowledge is privileged (Maynard & Waters, 2007; Maynard et al., 2013, Sevimli-Celik et al., 2011). In the group interview Tripti reflected on her experiences and cultural upbringing where academic skills were prioritised over being active:

Because I come from a different background, when I went to PD I found out how much I missed out on in my own childhood, not that we were stopped being physical but we were not given as many chances as you get here [in New Zealand]. And the reason being study, being academic is considered more important than being playful.

(Interview 278-280)

Therefore, Tripti utilised new information gained from PD, in her conversations with parents, to address these perceptions and advocate the benefits of PAP. Tripti explained during the group interview, “I started advocating especially with the people who come from Asia and the other countries where they think children are just playing, and I explain to them how important it is [PAP]” (Interview lines 289-291). During the group interview several teachers spoke of using conversations, which included those with children, in advocating for a physically active, healthy lifestyle, and to promote health and well-being across generations.
For example, in the following extract from Liz, where conversations with children aided learning and also enabled them to progress their parent education goals:

“…so they [children] are learning about it [the benefits of PAP] and can make connections with all the people in their lives that are doing it and I think that’s really important. And if the people in their life aren’t doing it maybe they’ll go and role model for them to do it, because they know it’s important. So they can actually share that at home and encourage physical activity. Advocate for it. (Interview lines 305-307)

I observed such a conversation where this instrument was operationalised in advancing parent education, illustrated through the following vignette.

“Exercise keeps us fit and healthy”.

“Come and try this Todd, try this one” says Liz as she has a turn first. “Have you tried jumping on the tramp and onto the mat? Jump, jump, jump. Yay! You did it, excellent” says Liz. “It’s so important that we get lots of exercise it keeps us fit and healthy. What do you think Todd?” Liz asks. “It’s fun doing this, my Dad does running, he says it makes him fit. I don’t really like running lots” says Todd. “Well, it’s important to find something that you like doing and people like doing different sorts of exercise” says Liz. “What does Mum like doing?” she asks. “She doesn’t do running” says Todd. “Well maybe she would like jumping on the tramp, you could see if she wants to have a turn when she comes later” says Liz. (Observation 370)

“Conversations used to advocate the benefits of PAP” with parents and children were an important instrument teachers used in their work to progress parent education. This instrument was developed as a result of their engagement with PD and new resources where
new knowledge strengthened their resolve and self-efficacy in advocating the benefits of PAP.

As these teachers considered ways to make stronger connections with families and progress parent education by garnering their involvement, other new instruments were mobilised. These included “family events”, “use of the local park”, and teaching strategies where they participated in PAP with parents and children. Liz explained in the group interview:

Another way to get parents on board is at our last family evening we went out to the reserve with the parents and brothers and sisters and we had sack races and roly-poly’s and chase with the parents involved as well. (Interview lines 88-90)

Shalini also considered the use of the local park as a means to familiarise parents with a community space which they could utilise if space at home for PAP was limited. She explained in the group interview:

When they see the benefits and when they see what the children are getting out of physical play [at the park] they really appreciate it. Some might be living in smaller environments where that’s not possible, but now they feel comfortable to use the park too. (Interview lines 45-47)

In advancing parent education, family events, teaching strategies, and use of the local park all culminated as instruments to encourage parent involvement and to exhibit the benefits of PAP.
In this section of the chapter I have discussed the PAP activity system at the Rainbow Centre and how the system was working to advance the immediate objects of self-review, the PAP programme, and parent education. In the following section I discuss the contradiction revealed in this CHAT analysis when risk anxiety constrained the PAP programme during my time at the centre.

A Contradiction Resulting From Teachers’ Risk Anxiety

As discussed earlier in the chapter, a new rule to accentuate challenge and risk had been integrated into the activity system to advance both the self-review and PAP programme objects. While this was a collectively held rule, the teachers had different levels of tolerance to risk. In their survey responses, Nathan and Kelly both identified low levels of risk tolerance, and they considered an important part of their role was to protect children during PAP. For example, Nathan wrote in his survey, “I project confidence and reliability, a can-do spirit, and protectiveness. I am better able to protect children by jumping alongside them, running with them, climbing alongside, or engaging with the games they develop”. Protectiveness and ensuring children’s safety were significant concerns for Nathan, concepts that vied with the collective rule to accentuate risk and challenge. Kelly also identified a need to protect children when she wrote in her survey, “I believe I can help children try new things, while keeping them safe”. This next vignette highlights teachers’ practices when supporting challenge and risk. “The red box activity” shows how the teachers’ differing levels of risk tolerance influenced their practices and subsequently impacted children’s goal setting.
“The red box activity”.

Liz brings a crash mat to the red box and she encourages children to climb up and jump off. “Go Derek, good jumping, oh he did a sideways kick that’s a bit tricky” (Observation 382). Due to the high level of interest in the activity, Liz models how the children can manage their own safety, “no pushing or people get scared” says Liz. “Say: don’t push Terry” models Liz, “let’s say: go Amy, go Amy!” everyone chants. “Watch this, I’m a Ninja” says Sam. (Observation 382). Liz and Tripti who are supervising outside today appear confident that the children can safely manage this activity independently. They leave the group to their own exploration. “Oh yeah, that’s cool up here” says Alan on the red box, “did you see how high I jumped?” asks Shelley jumping onto the mat. Alan follows, “oh that hurt” he says slapping his body onto the mat. “Let’s go on here” he says climbing. “Let’s go on the pattern” Alan says going on the log path. “This is our playground let’s pretend” says Shelley. “I can go sideways” says Simran joining the game and crossing to the box. (Observation, 384). When Kelly arrives to cover the teachers’ lunch breaks she sees the children jumping off the box, sometimes two at a time. Kelly goes to stand next to the red box. “Remember, wait until the other person is off the mat before you jump” says Kelly. “Try not to go too far to the end or you might fall off” Kelly says to a girl who is doing very big jumps. A boy jumps and does a forward roll. “Oh that was really good, but see this (a ladder) it’s really hard, we don’t want you to hit that” says Kelly. (Observation 387)

The next day Nathan and Shalini are rostered on the outdoor area, and the children resume their activity of jumping off the red box and both teachers go to stand by it. “Oh Mandy has found the backdoor” says Nathan as a child climbs the box instead of the ramp. “Let’s just have one way to go, oh no pushing. Let’s have a rule about how
many children on the box at a time. Let’s have a jumper and a waiter” says Nathan. “Wait until she’s gone” Shalini says to a boy on the mat. “Not there, go up the ladder” says Shalini. “Wait, wait only two at a time” says Nathan. “Stay away from the mat” says Nathan. (Observation 406)

In the vignette of the red box activity, a contradiction is revealed in some teachers’ beliefs, values, and practices. Risk anxiety influenced teachers’ responses (believing the red box activity to be dangerous) and subsequently children’s engagement with challenge and risk. Liz and Tripti had different tolerance levels toward challenge and risk compared to Kelly, Nathan, and Shalini who imposed many constraints and restrictions. The differences meant more teacher direction in managing the activity including rules about directionality, choice of how to get up the box, how many on the box, and when to jump were developed. There appeared little autonomy, self-regulation, or child-initiated risk assessment encouraged by Kelly, Nathan or Shalini in this learning experience. Furthermore, it was a different kind of red box activity to that of the previous day. For these teachers, risk anxiety and their desire to protect children’s safety outweighed their espoused beliefs about setting up a provocation, withdrawing, and in actively being led by the child (discussed previously as teachers’ beliefs and values in a child-led programme). The rules being enacted in the activity system mediated whether children could set their own goals or adapt resources to meet their goals. These findings, illustrated through “The red box activity”, reveal that balancing safety aspects with those of challenge and risk (even when these are firmly seated goals and values central to advancing the PAP programme), can be difficult for teachers to manage. Both Stephenson (2003) and Greenfield (2007) argued that teachers must take a sensitive but liberal approach when supporting children’s engagement with challenge and risk, while striving to mitigate potential hazards. While Stephenson’s (1998) study identified fewer restrictions and controls in the outdoor environment, this was not the case at the Rainbow Centre. Here, some
teachers felt anxious letting play continue on the red box without their guidance and supervision. Teachers must consider the balance between providing structured boundaries and allowing the freedom for children to choose elements to incorporate and explore within activities (Greenfield, 2007; Hussain, 2011; Stephenson, 1998, 2003). Risk anxiety remained a contradiction generated in the PAP activity system at the Rainbow Centre when teachers’ risk tolerance was low. This contradiction impeded the teachers’ work in advancing the PAP programme object. While this contradiction remained unaddressed in this activity system, findings from the Funtimes Centre (Chapter Seven) revealed the instrument of upholding an organisational culture which valued dialogue and reflection was successfully used to ameliorate this contradiction. The CHAT analysis conducted within this study has revealed risk anxiety produced contradictions in the activity systems of the Limelight, Funtimes, and Rainbow Centres, where one centre recognised and worked to mitigate this tension by mobilising a new instrument. Having concluded the discussion of this contradiction hindering the teachers’ work on the PAP programme at the Rainbow Centre, I now discuss their success in their work in parent education. Here I argue how the teachers’ work in educating parents supported the nature of PAP in this city-based early childhood centre.

The Significance of Teachers’ Work in Parent Education

Findings from the Rainbow Centre revealed one of their prioritised goals was to educate parents about the importance of PAP in the curriculum. The teaching team considered that striving to achieve this goal would encourage greater physical activity opportunities for children. Teachers envisaged that through developing this awareness, and understanding the value of PAP, parents would become more involved in activity with their child and more
open to their child engaging in challenge and risk taking opportunities whilst attending the centre.

In order to advance their goal of parent education, teachers at the Rainbow Centre utilised instruments such as PD through their organisation, new resources, networking, knowledge and skills, learning stories, use of the park, and family events and conversations. These instruments assisted teachers to articulate the benefits of physical activity and the associated cognitive gains. The teaching team had prioritised the visibility and benefits of physical play in the children’s portfolios. On occasion, teachers used extracts from their resource books in children’s learning stories to support their analysis and show parents about its importance. Learning that developed through the child’s engagement with physical play often extended across curriculum domains, for example, in extending communication and group skills. Photographs of children’s learning in action offered a visible and weighty indicator to parents of the value and benefits in engaging in PAP.

These findings point to the importance teachers at the Rainbow Centre placed on collaboration with parents. They considered it their role to advocate the many benefits of physical activity not only for children but for the health of all family members. This is consistent with the findings of Tucker et al. (2011) and McClintic and Petty (2015) who argued a need for childcare providers and parents to work together to support children’s participation in physical activity, and to communicate the importance of a healthy lifestyle. Tucker et al. (2011) expanded on this saying, “the effort and education that transpires in the childcare centre could be lost if children go home to an environment and parents who do not support physical activity” (p. 6). The necessity for increased collaboration between teachers
and parents is considered vital to supporting healthy, active behaviours (McClintic & Petty, 2015; Tucker et al., 2011). The current study provides a range of strategies which have been used to enhance this collaborative process in advancing the benefits of PAP through parent education in one New Zealand city-based centre. These findings add to the body of international literature suggesting that continued PD leads to increased teacher confidence in responding to children’s physical development and advocating for quality education where PAP features strongly (Helm & Boos, 1996; Louie & Chan, 2003; Suthers & Larkin, 1996). Being part of a large public early childhood organisation made access to continued PD and networking opportunities readily available to teachers at the Rainbow Centre, and was advantageous in achieving their goals.

Through the centre’s family events held at the local park, parents also became familiar with the park, which they could access when they had limited space at home. In this way, increased urbanisation and limited outdoor areas identified as a factor for many families attending their city-based centre, could be alleviated. In response to their multicultural community, these teachers worked to familiarise parents with the New Zealand experience of PAP which may have been different to their own early childhood experiences. These conclusions highlight parent education as a significant success in the PAP activity system at the Rainbow Centre.

Having discussed the conclusions drawn from the teachers’ work in parent education, I now consolidate the findings and put forward the conclusions from the teachers’ work in self-review and the PAP programme in the next section.
Final Conclusions of this CHAT Analysis at the Rainbow Centre

At the Rainbow centre, PAP was considered an important and well-integrated part of the curriculum. The reduced age of the children attending the centre was a catalyst for the three objects being prioritised in the PAP activity system during the time I attended the centre: self-review, the PAP programme, and parent education. In the previous section I discussed the conclusions which stemmed from the teachers’ work in parent education, in this section I discuss the conclusions surrounding self-review and the PAP programme.

The teachers’ work in self-review began with self-review tools to assess the programme. The intent was to ensure that the PAP programme met the needs of the children attending. PD was a significant instrument in their work to advance self-review. For example, teachers purchased PAP resource books, and the Jump Jam aerobics music and movement programme. Teachers considered both free expression and synchronised movement opportunities offered valued learning outcomes for children, as revealed in the vignette “Jump Jam”. A range of teaching strategies to support Jump Jam were utilised, including the teacher as participant, modeling and encouragement. In advancing self-review, Liz and Nathan considered dance and movement to be particularly useful in supporting PAP for the younger age group. By offering both free expression and synchronised movements (illustrated in the “Jump Jam” vignette), the teachers provided greater scope to explore PAP than one dimensional learning as developed through choreographed dance alone (Zachopoulou et al., 2006). This factor was considered to restrict children’s free expression in Zachopoulou et al.’s (2006) Greek study on dance and movement. Teachers found that being able to incorporate free expression helped children developed an openness to new experience, for example, one teacher said,
“when children understood that everything was accepted and interesting, they went ahead… they tried new movements” (Zachopoulou et al., 2006, p. 289). At the Rainbow Centre, children chose how they would engage and utilised props such as scarves, ribbons, and dress-ups to mould the activity to their interests, where all forms of expression were encouraged by Liz. These findings are important to understand how new instruments such as Jump Jam are being utilised and experienced in New Zealand early childhood PAP programmes. This structured physical activity programme which stemmed from PD was integrated into the child-led environment and proved successful in advancing the self-review object at the Rainbow Centre.

In order to advance the PAP programme, the instrument of PD through their organisation prompted new instruments to be developed. These included new resources, networking opportunities, knowledge, and skills. The collective beliefs and values of the team centered on the provision of the PAP programme through a child-led curriculum supported by resources and provocations. In addition, they valued challenge and risk, and sociocultural teaching and learning methods where the instrument of collaborative planning involved both teachers and children. Teachers’ beliefs and values became rules in the activity system where children had free access to the storage sheds and equipment, children set their own goals and adapted resources to meet their goals. The children were supported by teachers who utilised modelling, scaffolding, encouragement, and either actively participated or set up activities to inspire PAP. Such teaching practices were enabled through the supervision policy rule and division of labour where two teachers were allocated to support both supervision and children’s learning through PAP outside.
The teaching team worked in pursuit of the PAP programme object by developing and using specific instruments in conjunction with their new rule to accentuate challenge and risk. However, a major contradiction emerged when this new rule was usurped by teachers’ risk anxiety which influenced children’s engagement with challenge and risk, and hindered the PAP programme. An example of this contradiction in play in the activity system was illustrated through the vignette “The red box activity”, where for some teachers, jumping off the red box was perceived as dangerous and therefore detrimental to children’s safety. In response to their desire to protect children from these perceived dangers, Shalini, Kelly, and Nathan instigated rules in contrast to their intent to accentuate challenge and risk, and their beliefs and values in a child-led curriculum. When teachers’ beliefs, values, and practices did not align as a result of risk anxiety, teachers’ rules and rigidity hindered the advancement of the PAP programme. This became evident when children were unable to set their own goals and adapt resources to their intent (for example, deciding which way to get onto the red box), during the time these teachers were supervising. Hence, their need to protect and continually supervise removed children’s autonomy and stopped self-directed learning from occurring. Unlike the findings at the Funtimes Centre where this contradiction was also generated, the teaching team at the Rainbow Centre did not acknowledge or address this contradiction during my time data collecting. Therefore, risk anxiety continued to manifest unabated as a contradiction hindering the PAP programme at the Rainbow Centre.

Regulations were also perceived as a constraint in advancing the PAP programme and self-review, where challenge and risk was valued. Regulations were a constraint to self-review when teachers set up two balance challenges to cater to their younger age group. The limited safety fall matting area meant teachers had to try several positions before meeting the regulatory requirements. In addition, Liz identified that their adherence to the regulated
height restrictions would remove a sense of adventure from the PAP programme; for
example, she said the children would not be able to climb the trees. As I did not observe any
instances of breaches to the regulations, they remained a perceived contradiction which I was
unable to verify during my data collection. However, they suggest consistency with the case
findings at the Sunrise, Pastel, and Funtimes Centres, as discussed in previous chapters,
where regulations were a constraint in their PAP activity systems. At the Rainbow Centre,
teachers believed that the regulations needed to be more aligned with children’s physical
lives outside the centre environment. They also identified that the regulations should support
their professional knowledge whereby challenge and risk taking opportunities offered valued
learning experiences. These views are consistent with those expressed by teachers in
previous case study findings within this study. I now consolidate the accumulation of these
findings from the previous five chapters to provide a cross-case analysis in the final chapter.
Chapter Nine

Conclusions

Cross-case Discussion

In this study I have explored the cultural historical production of PAP as part of a holistic curriculum in New Zealand early childhood education. My questions have sought to explore the nature of physically active play in five city-based early childhood centres. In the preceding five chapters I have discussed the activity systems in each of the early childhood centres: the Sunrise, Pastel, Limelight, Funtimes and Rainbow Centre. This chapter provides an opportunity to consider these early childhood settings activity systems collectively in order to respond to the following research questions:

- What are teachers’ aspirations for PAP and how are they able to realise these?
- How do teachers manage the learning environment to support emerging interests in the physical curriculum?
- How is the physical education curriculum planned and implemented?
- What are teachers’ beliefs and values surrounding their role in facilitating PAP?

Across each of the five activity systems, commonalities were revealed in teachers’ aspirations for PAP as they worked on the objects of the PAP programme, self-review, and parent education. In addition, one centre pursued an object of structured physical activity sessions. Each of these objects was being advanced through a range of instruments, some of which became rules in the activity system, several of which featured across the centres and these are discussed next. Within this cross-case discussion, I draw conclusions based on what this study has shown and make relationships with existing research as I discuss teachers’
aspirations for PAP, teachers’ work in the emergent PAP space, planning and implementing PAP, and teachers’ beliefs and values in facilitating PAP.

**Teachers’ aspirations for PAP.**

In this section, I discuss the objects of self-review, the PAP programme, parent education, and structured physical activity sessions revealed as commonly held aspirations amongst teachers within the activity system analyses across these five early childhood centres. I identify what each of the objects meant to these teaching teams, how they reflected their priorities for PAP, and highlight the significant instruments and rules which advanced or hindered the pursuit of their goals.

Self-review was a significant aspiration for teachers across these centres (excluding the Limelight Centre), where their work in self-review led to the implementation of new instruments and increased teacher motivation surrounding PAP. To these teaching teams, self-review primarily meant evaluating their existing PAP programme to ensure it met the needs of the children, where barriers could be overcome and improvements made. The case study findings of the PAP activity system revealed that at each of these centres self-review was advanced when new instruments were operationalised. These new instruments included PD, Playball© and structured activities, teaching strategies adapted to their goals, and planning which resulted in changes to the environment or the addition of new resources. One of the more significant findings to emerge from this study was the strength of PD in assisting teachers to realise their aspirations for the nature of PAP through self-review. This was evidenced within the case study findings of the PAP activity systems at the Pastel,
Funtimes, and Rainbow centres where PD became the driving force to increase motivation and success in their work in self-review. Moreover, PD inspired the growth and strengthening of teaching practices which enhanced the nature of PAP in these centres, discussed forthwith. Given the paucity of New Zealand research surrounding PAP, in this section I will demonstrate how this study has addressed the gap in knowledge surrounding teachers’ access to PD and how this was being utilised to make improvements to the PAP programme.

As a result of self-review, teachers’ engagement with PD led to changed practices in planning, resourcing the PAP programme, making the PAP programme responsive to children’s emerging interests, and reducing teachers’ risk anxiety in facilitating PAP. For example, at the Pastel Centre, teachers’ aspirations for self-review became the catalyst for PD. PD resulted in improvements to planning, teaching strategies, and their development of a teacher tool kit which represented their values in sociocultural teaching and learning pedagogy. Planning was enhanced to ensure targeted resources and the outdoor set-up responded to children’s emerging PAP interests. At the Rainbow Centre, being part of a large regional public organisation enabled them to readily access free PD and networking opportunities to support their aspirations for self-review. The teachers identified how these learning opportunities led to new resources being purchased following recommendations from others in their network who could attest to their value in supporting PAP. These included resource books and the movement programme Jump Jam. The new instrument of Jump Jam was highly valued as a means to support their younger age group in PAP through music and movement, discussed in the vignette, “Jump Jam” in Chapter Eight. In addition, teachers sometimes utilised extracts from these new books in their planning, to support their analysis of children’s learning. The teaching team at the Rainbow Centre highlighted the fact
that the range of PD opportunities they had attended supported their knowledge, skills, and advocacy for PAP. At the Funtimes Centre, PD was accessed through a different means than the Pastel and Rainbow Centres, where the team functioned as a community of practice to facilitate professional knowledge building. The teaching team identified the affordances and support available within their community of practice enabling them to realise their aspirations for self-review. For example, they made new challenges in their outdoor environment, one of which was described in the vignette, “the blue bridge” in Chapter Seven. In addition, PD and their work to uphold an organisational culture which valued dialogue and reflection helped these teachers to overcome risk anxiety. Collectively, they developed strategies to increase their tolerance to risk when facilitating PAP, which included identifying the factors that increased their anxiety, gaining support, increasing supervision, or establishing rules. The evidence from this cross-case analysis highlights PD as a significant instrument being utilised to progress these teachers’ aspirations for self-review. Furthermore, this study has shown that teachers who accessed PD were motivated to implement a myriad of improvements to the nature of PAP experiences through planning, resourcing, support for emergent interests, and facilitating challenge and risk. These New Zealand findings add to the international evidence which have argued that teacher training is necessary to support children’s engagement in PAP resulting in quality learning outcomes (Gagen & Getchell, 2006; Helm & Boos, 1996; Martyniuk & Tucker, 2014; O’Connor & Temple, 2005; Vives Rodriguez, 2005). This study has demonstrated how PD has been utilised in these New Zealand centres to make improvements to the PAP programme, as part of the holistic curriculum. The findings from this study have begun to address the gap in knowledge surrounding New Zealand teachers’ access to PD to support PAP. In this study, three of the five centres were able to readily access PD where teachers developed knowledge and skills to support PAP. However, the Sunrise Centre found access to PD difficult, and as a result teachers were constrained in their
ability to access new ideas, equipment, and activities to support their self-review goals for PAP. There are synergies between these findings at the Pastel Centre, where a lack of PD created a contradiction in the PAP activity system hindering self-review, and those revealed in Martyniuk and Tucker’s (2014) Canadian study of early childhood student teachers, where teachers lamented a lack of PD support. Both studies have revealed that teachers who lack access to this educational component encounter a barrier to providing a rich and diverse PAP programme. In the next section, I discuss teachers’ aspirations for the PAP programme object as part of the curriculum.

All five centres were working to advance the PAP programme object and although they had different priorities surrounding this object, there was a consistent approach in the rules and instruments the teachers operationalised to achieve their goals. At the Sunrise, Pastel, and Limelight Centre the teachers’ aspirations for the PAP programme object meant increasing opportunities for PAP, where children would pursue their own goals, supported by resources. At the Funtimes and Rainbow Centre, this object meant increasing challenge and risk where children’s learning dispositions, such as persistence and perseverance, would be enhanced. In addition, at the Funtimes Centre the teachers’ priorities for the PAP programme included children developing risk analysis skills. A range of instruments were being utilised to advance the teachers’ aspirations for the PAP programme object as part of the curriculum, across the five centres. For example, at the Sunrise Centre new instruments included additional equipment (bikes), Playball©, and structured activities; while at the Pastel Centre planning was a key instrument alongside several policy rules. These policies reflected the teachers’ beliefs and values surrounding quality sociocultural teaching and learning practices and shaped their division of labour allocation in the PAP space. Rules and instruments including policies, teaching strategies, and changes to the equipment to support the children’s
PAP interests featured in each of the five activity systems. The findings of this study provide an insight into the organisational culture operating within each centre. This was reflected in the use of rules and instruments which each of the teaching teams developed and utilised in practice. At the Sunrise, Pastel, Funtimes and Rainbow centres the teaching teams prioritised peer learning, intentional teaching and strategies to engage children’s interests in PAP through their involvement with the children’s PAP interests. Hedges and Cooper (2016) have argued that a narrow response to interpreting and responding to children’s interests might include planning which simply involves the addition of further resources, with little input from adults. Several studies have argued intentional teaching and assessments aimed at valued outcomes is needed to enhance learning opportunities for children in PAP, where children’s learning lives and identities are valued (Hedges & Cooper, 2016; Hedges et al., 2011; Oliver & McLachlan, 2006). In providing knowledge of how these teachers worked collectively to develop their PAP programme through instruments and rules, I have added to the body of knowledge surrounding organisational culture in New Zealand early childhood settings (Thornton, 2006; Mitchell, 2007), and more specifically, to their work in PAP programmes (McLeod, 2002) where a gap in knowledge exists. Later in the chapter, I will discuss the teachers’ work in mitigating contradictions in their pursuit of the PAP programme object as I describe teachers’ work in the emergent PAP space, and teachers’ beliefs and values in facilitating PAP. Next, I discuss the teachers’ aspirations for parent education.

At three centres, teachers considered their values on learning through PAP were misaligned with parent’s values as they believed that parents saw the role of early childhood as focused on school readiness, numeracy and literacy skills in contrast to learning through PAP. These teachers’ aspired to educate parents on the benefits of PAP, which they considered an important aspect of their teaching role. A range of instruments were operationalised to
advance their parent education object at the Sunrise, Pastel, and Rainbow Centres. The cross-case activity system analysis revealed that Playball©, discussions with parents, and learning stories were utilised by the teaching teams in all three activity systems, where their aim was to align their values on the benefits of PAP with parents. These instruments, alongside other instruments and rules specific to each centre, led to changes in the nature of PAP at each of these centres. These findings address the gap in knowledge in understanding how New Zealand teachers use their knowledge and skills to advocate for the importance of PAP as part of the curriculum utilising instruments and rules in their activity systems. Many international studies have argued that societal views toward the value of PAP have been negated in favour of an emphasis on academic school readiness (Browne et al., 2009; Carson, 2001; Maynard & Waters, 2007; Stork & Sanders, 2008), however, evidence of this in New Zealand has not been readily available. In my study teachers’ focus on PAP in early childhood education remains strong. While this study did not obtain parents’ perspectives on the value of PAP directly, the teaching teams at the Sunrise, Pastel and Rainbow Centres did report that in their view, parents placed little value on PAP: academic skills were more highly valued. These perceptions underpinned the teaching teams’ goals for parent education in the PAP activity system at these three centres. The instruments of family events and use of the local park operationalised in the activity system at the Rainbow Centre became a success in providing PAP ideas which could then be transferred to the home environment. These findings add a New Zealand perspective to the international research which has argued the important role early childhood teachers can provide in raising parental awareness of the value of PAP, where PAP opportunities become extended into the home environment (Chow & Humbert, 2011, 2014; McClintic & Petty, 2015; Tucker et al., 2011). In the next section, I discuss how the teaching teams overcame contradictions and tensions within their work in
advancing their parent education object which led to successes and changes to the nature of PAP.

The teachers’ work in parent education led to changes to parent’s perceptions of the value of PAP, parent’s support for challenge and risk taking and an increased understanding of the links between PAP and cognitive development, and in one centre, increased parental involvement in PAP. In the following section I will discuss how these successes stemmed from the teachers’ work in advancing parent education, as teachers sought to overcome contradictions in their PAP activity systems.

At the Sunrise and Pastel Centres teachers’ worked to overcome the contradiction of a misalignment between teachers’ and parents’ values on the importance of PAP. For example, at the Sunrise Centre the teaching team developed a new rule to create a strong centre culture on the value of outdoor play which was operationalised when the teachers provided the community of parents with information about Playball©. Parents responded enthusiastically to this new instrument, and funded the additional cost whereby the majority of children attended, indicating a success in changing the perceptions of parents. Playball© was also used successfully at the Pastel Centre to overcome this same contradiction, however, Playball© was found to instigate a new contradiction at this centre when it was in conflict with the managers beliefs and values. Nina believed that teachers should be competent to deliver all aspects of the PAP programme, therefore engaging external coaching programmes was unnecessary. In order to overcome this contradiction and support her teachers to increase their knowledge and skills in facilitating PAP, Nina prioritised PD which resulted in the new instrument of the teacher tool kit and planning to evolve. Nina retained Playball©
outside the operating hours of the centre, where it continued to support parent education. In utilising CHAT I was able to consider the holistic unit of the activity system to reveal how teachers’ beliefs and values became a factor when integrating new instruments to alleviate contradictions. These findings suggest that new instruments utilised to alleviate contradictions in one centre do not necessarily provide consistent results in another.

Through their work in parent education, teachers at the Pastel and Sunrise Centres were able to increase parent’s tolerance to risk taking while also raising awareness of the relationship between PAP and cognitive development. These teachers utilised instruments of learning stories and communicating the PAP philosophy at enrolment to advance the benefits of PAP and the value of children engaging in challenge and risk. At the Pastel Centre teachers responded to concerns about injuries occurring during PAP through their discussions with parents, where they advocated the need for children to develop their own judgement and risk assessment skills. These teachers strove to align their beliefs with those of the parent community, utilising planning and learning stories to highlight children learning through PAP. The vignette, “Harry: A plan to support literacy within the PAP programme” in Chapter Five, demonstrated how Diane supported numeracy and literacy development through PAP. The vignette, “Kick it Max!” demonstrated how teachers and parents collaborated on planning to support Max’s physical interests. These vignettes evidenced the success at the Pastel Centre, where their work in parent education led to greater parental awareness of the links between physical activity and cognitive development through planning and discussions.
Increased parental involvement in PAP at the Rainbow Centre stemmed from new instruments of family events, use of the local park, learning stories, and conversations integrated into their activity system as they worked to advance parent education. Teachers highlighted cultural aspects and a lack of outdoor provision through increased urbanisation (for example apartment living) to be influential factors which was reflected in a nervousness and unfamiliarity with PAP from some of their parent community. These findings add to those of Okely et al., (2009) and Venetsanou and Kambas’ (2010) international studies where increased urbanisation and constrained living conditions were found to be a detrimental factor to children’s PAP opportunities. In order to address these factors the Rainbow Centre teachers integrated these new instruments which proved to be successful in getting the parent community involved in physical activity. For example, they planned family events which provided opportunities for teachers to converse with parents. Teachers also used conversations with children to develop their knowledge about the importance of physical activity to health and wellbeing. Children were encouraged to be advocates for PAP by helping their parents become involved in PAP in the centre, illustrated in the vignette, “Exercise keeps us fit and healthy” in Chapter Eight. In addition, teachers modelled and scaffolded various PAP activities and experiences during the family events where families got involved and experienced first-hand the enjoyment found within PAP. The teachers utilised the local park which adjoined the centre for these events, providing families with a familiarity with this community space which they could access when space at home was limited. Through these instruments they achieved a success in increasing parental involvement with children’s PAP at the centre. This teaching team worked to promote a healthy lifestyle for all the family through their collaborative approach with families, which became a success in their PAP activity system.
The importance of parent education and the benefits and successes therein has been clearly demonstrated through this cross-case analysis. In addressing the gap in knowledge and answering the research question, what are teachers’ beliefs and values surrounding their role in facilitating PAP? Teachers clearly believed their role was one of advocacy. These teachers held strongly and unequivocally to the child’s right to experience PAP and to explore challenge and risk. In order to realise their aspirations for PAP they prioritised parent education where their work promoted reciprocity between the centre and home environments.

Throughout this chapter, I have made explicit teachers’ aspirations for PAP and how they were able to realise these as I discussed their work in each of the commonly held objects they had prioritised in their PAP activity systems. However, at Funtimes Centre the teachers had developed a stand-alone object reflecting their aspirations for in-house structured physical activity sessions, which I will discuss next. This teaching team held strong beliefs in their provision of curriculum through a balance of structure and free play. In their work to advance structured physical activity sessions they mobilised their instruments of PD through a community of practice and their work in developing their organisational culture where Tania held a key role. Tania developed the team’s knowledge and skills in facilitating yoga sessions with the children in the centre, which became a regular feature of the PAP programme illustrated in the vignette, “Yoga”. While the team trialled other instruments of Playball© and Trampolining World, these were discarded in favour of the team delivering their own in-house structured PAP sessions, eliminating the added cost inherent with engaging external PAP programmes. Their decision to up-skill their team through PD rather than outsource aspects of the PAP programme (for example, through Playball©) was consistent with the beliefs and values of the manager at the Pastel Centre where Nina believed all teachers should be capable to deliver all curriculum areas. The vignette, “The
beanbags” in Chapter Seven, demonstrated how structured activities at the Funtimes Centre were being incorporated into the activity system where children were developing knowledge, skills, and attitudes through this new provision. The addition of structured physical activity sessions was well positioned alongside free play, where large groups of children chose to engage. Structured and unstructured activities were not privileged over each other but rather offered children variations of PAP which provided added variety and challenge to the programme. Often these activities (such as yoga) were requested by the children and were also explored within their free play activities of their own making. There are synergies between these and Hussain’s (2011) findings where the dynamics of a game of chase led to many advantages, which began with a structured activity and led to children’s independent exploration, she explained:

The game of chase shows that (1) it values both children’s and teachers’ interests, (2) it enables teachers and children to broadly and deeply explore facets of games of chase together, and (3) it focuses not only on following children’s interests, but also generating children’s interests in a new activity or curriculum area. (Hussain, 2011, p. 116)

There are consistencies in the quality of teaching and learning experiences Hussain (2011), and the teachers at the Funtimes Centre experienced when engaged in structured physical activity. These teachers demonstrated that they were open to considering alternative ways in which to support the nature of PAP in their centre. These findings from the Funtimes Centre address the gap in knowledge in understanding how the organisational culture and collective image of the child aligned with teaching and learning priorities for PAP and their relationship with theoretical understandings of child development in this centre. The findings at the Funtimes Centre offer a contrasting view to those found in McLeod’s (2002) New Zealand study. McLeod’s findings revealed that the image of the child and teaching and learning
theories favoured in all but one of the ten early childhood centres interviewed reflected the beliefs of the centre founder, and were often misaligned with currently accepted theory. McLeod identified there was a leaning towards a child-centred approach where teachers remained separate to the PAP experience rather than engaging in a collaborative approach to teaching and learning in these centres environments. Fourteen years after McLeod’s study, this current study offers a different perspective of the role of organisational culture operating at the Funtimes centre, as teachers drew their individual beliefs and values into the collective and made decisions about the PAP opportunities made available. These included their decisions about the provision of structured and unstructured PAP experiences and their teaching role to support these. Moreover, the findings of this study revealed four centres offered both structured and unstructured PAP activities to children. In these centres, teachers adapted their teaching strategies to meet their goals to support both structured and unstructured PAP in a learning environment where sociocultural teaching and learning practices were valued. As the Funtimes Centre were utilising their work to uphold an organisational culture which valued pedagogical dialogue and reflection as an instrument in the PAP activity system, these findings offer a comprehensive view of their organisational culture being enacted. Therefore, these case study findings add an important addition to the existing body of knowledge surrounding organisational culture in early childhood education in New Zealand (McLeod, 2002; Mitchell, 2007; Taylor, 2011). In this section, I have addressed the research question, what are teachers’ aspirations for PAP and how are they able to realise these? as I discussed the teachers’ work in their immediate objects of their PAP activity systems. Next, I address the research question, how do teachers manage the learning environment to support emerging interests in the physical curriculum? where I describe the changes which teachers’ enacted within the PAP space which changed the nature of PAP in these centres.
Teachers’ work in the emergent PAP space.

Teachers in this study sought to overcome several contradictions during their work in pursuing their objects, which influenced their management of the emergent PAP space. In this section, I discuss these contradictions in order to address the research question, and draw conclusions in relation to how teachers manage the learning environment to support emerging interests in the physical curriculum. These contradictions related to the safety regulations, the addition of bikes and subsequent bike rules, and teachers’ risk anxiety. I also discuss the allocation of teachers to the outdoor environment across these five centres to consider how this influenced their ability to manage the learning environment.

Safety regulations were identified as a contradiction which significantly impacted the teachers’ abilities to provide opportunities for challenge and risk in four centres, as they pursued self-review. For example, the teachers’ perceived resourcing and design of the outdoor area were constrained by the safety regulations, and influenced the teachers’ planning for emergent interests at the Sunrise, Funtimes, and Rainbow Centre, hindering their pursuit of their self-review object. At the Pastel Centre, regulations were found to constrain their work in advancing the PAP programme object when planning for challenge and risk. These findings add a New Zealand perspective which fills a gap in knowledge and contributes to Little and Sweller’s (2014) Australian findings. In Little and Sweller’s study 45% of centre participants (N=245) found that height and fall zone restrictions hindered their support of challenge and risk. My study findings also revealed height restrictions for equipment and trees, and the subsequent safety-fall matting requirements, to be a constraint. In Chapter Five I discussed how the manager at Pastel Centre had specifically built in challenge into the outdoor equipment at the maximum range of the regulatory height
restrictions. She sought to push the limits of the regulatory boundaries on height in order to promote challenge and risk, making alterations only when requested by the Ministry to rectify the breach. A further example was offered by the manager at the Rainbow Centre who suggested that enforcing childrens adherance to safety regulations (for example, by restricting tree climbing) would remove adventure from the outdoor environment. However, I did not observe any breaches to the height regulations during my time at these centres, and therefore these remained perceived constraints. In addition to the height restrictions, my study revealed the 1.5 metre space requirement between equipment was problematic to teachers at the Sunrise and Funtimes Centres, and was discussed in Chapters Four and Seven. I was able to observe occasions where children were restricted in setting their own goals and challenges and teachers were frustrated when arranging PAP equipment due to this regulatory requirement. While each centre met the regulatory outdoor space requirements, playground design faults or excess equipment in the outdoor space could have been a contributing factor when problems arose in maintaining regulatory distance between equipment or in managing fall zones. A conclusion I draw from this evidence, and consensus amongst teachers in this study, is that there was a perception that safety regulations imposed unreasonable restrictions on play. Moreover, these teachers reported that these restrictions only influenced their early childhood environments and were not perceived to overshadow the experiences that children were free to participate in within their wider community environments (such as parks). This misalignment was regarded as demeaning to teachers’ professional wisdom, experience, and knowledge of the children and environment in which they worked. A significant finding of this study was that teachers found no avenue to overcome this constraint, and was therefore one that teachers sought to live with. Other New Zealand studies have established that regulations have restricted the nature of PAP activities offered (Lockie & Wright, 2002; Stephenson, 2002, 2003). However, the findings of this current study fill a gap in knowledge
in understanding how regulatory constraints were being managed by New Zealand teachers in their provision of PAP.

At the Sunrise Centre, bikes were added into the PAP programme to overcome the contradiction of a lack of PD which teachers sought in order to generate new ideas and activities into the PAP space. A lack of PD was a contradiction to the teachers’ work in self-review which hindered planning for new ideas, equipment, and activities to support children’s interests. However, bikes were added to the PAP programme because they were considered important to the continuation of children’s interests between the home and centre environments. While the addition of bikes overcame one contradiction, another was generated when bike rules became a constraint following a parent’s concern that bike helmets be worn when children rode on the concrete area. This was later overcome through the addition of bike helmets and negotiated bike rules adopted within the activity system. The CHAT analysis revealed how the PAP activity system was flexing and expanding, and also that in overcoming one contradiction, another might be created. Therefore, a significant contribution of this study is the way CHAT has facilitated an understanding of emergent contradictions as forming part of the centre life, and how teachers must recognise, negotiate and live with these. Thus, the management of emergent contradictions is a feature of how the teachers managed the learning environment to support emerging interests in the physical curriculum. Through CHAT I was able to explore the situational factors and the multiple levels of interactions as the teachers worked to resolve these constraints originating from the addition of bikes at the Sunrise Centre. These interactions included their needs as a teaching team, the needs of the parents, and to support the learning outcomes they valued for children, highlighted through the analysis. These findings, alongside other studies in the field of education (Anderson & Stillman, 2013; Barab et al., 2002; Chilvers, 2011; Pearson, 2009;
Yamagata-Lynch, 2003) are important in demonstrating how this conceptual framework supports the generation of knowledge revealed within the interactions between activity system elements, and the teachers’ work in ameliorating contradictions.

At the Funtimes Centre, a contradiction was enacted when teachers’ beliefs, values and practices were misaligned as a result of risk anxiety during the teachers’ work in self-review, which hindered children’s opportunities for challenge and risk. Through the instruments of their work in developing their organisational culture and PD through a community of practice (within their own team), they engaged in open dialogue and reflection, and developed strategies to ameliorate this contradiction. These findings build on those of Stephenson (2003) who identified the difficulty teachers experienced in providing for challenge and risk when the potential for injury often prompted risk anxiety. Both Thomsom (2007) and Wyver et al.’s (2010) studies have argued that teachers’ risk anxiety has resulted in limitations to children’s PAP experiences, despite the teachers’ good intentions to the contrary. In adding to these studies, and in filling a gap in knowledge due to the paucity in New Zealand research, this current study offers an in-depth perspective of New Zealand teachers ameliorating risk anxiety in ways which supported children’s engagement with challenge and risk. In Chapter Seven, I have discussed how the teaching team reviewed and challenged their practices, where strategies were developed to elevate their tolerance to risk. Their work in mitigating this contradiction led to a change in the nature of PAP where teachers felt a greater sense of wellbeing in supporting children’s emergent interests in challenging and risky activities in their PAP space.
Across these five centres, the teachers’ role in the outdoor environment was found to be multifaceted requiring the teacher to not only supervise to ensure children’s safety and wellbeing but also to aid the development of children’s emergent interests within PAP. The allocation of teachers to support the outdoor environment at these five centres was managed through policies and rosters. At the Pastel, Funtimes, and Rainbow Centres, two teachers were rostered outside at the same time, and shared supervision was valued as supporting both safety and children’s learning through PAP. At the Sunrise Centre the lead teacher outside worked independently, and at the Limelight Centre, teachers’ preferences determined children’s outdoor access, and routines and ratios influenced the availability of teachers to take children outside. These findings are valuable in shedding light on how policies and rules were perceived by teachers to hinder or advance the nature of PAP in their centre environment, which has not been fully explored within New Zealand early childhood research to-date.

In this section I have discussed the teachers’ work in mitigating contradictions as they sought to advance their self-review and PAP programme objects, and how this affected the emergent PAP space. Several rules and instruments were found to affect the teaching teams’ work in managing the PAP learning environment. These included safety regulations, bike rules, teachers’ risk anxiety (as rules in the activity system) and a lack of PD which influenced planning for new ideas, equipment, and new activities (instruments). An obvious finding to emerge from this study was the significance of regulations which remained a perceived constraint that teachers were unable to address. In terms of the research question, how do teachers manage the learning environment to support emerging interest in the physical curriculum?, regulations proved to be a perceived barrier to providing a quality learning environment in three of the five early childhood centres in this study. It is now pertinent to
discuss the teachers’ planning and implementation of PAP which was part of the teachers’ work in supporting children’s emergent interests in the PAP space. Through this discussion it will become clear how the activity systems analysis across these five centres will address the research question, how is the physical education curriculum planned and implemented?

**Planning and implementing PAP.**

At each of the five centres planning and implementing PAP was supported through learning stories and planning of the outdoor environment in order to support children’s emergent interests in the PAP programme. As previously discussed, planning had also been utilised to advance the teachers’ work in parent education to highlight the benefits of PAP. Each teaching team advanced their PAP programme objects by changing the PAP resources regularly as part of their planning to add variety and challenge into the environment. The changing of resources was reflected in different ways in the activity systems. For example, at the Sunrise Centre changes to resources were incorporated within the instrument of the environment as the third teacher, at the Limelight Centre it was simply articulated as changes to resources, and at the Pastel, Funtimes, and Rainbow Centres it was through planning. In addition, a range of rules including staff supervision policies, rosters, and other policies (such as the assessment, evaluation and planning policy at the Sunrise Centre) were evident in the activity systems at all five centres to support planning. These rules allocated the teaching teams’ division of labour toward planning, for example, in each of the five centres a lead teacher was allocated to plan and set up the outdoor PAP space each day. The cross-case analysis revealed the instruments of planning and changes to resources, and policy rules and rosters to be common across all five activity systems, to support the planning and implementation of the PAP programme.
Other instruments and rules to support planning for the PAP programme were unique to the individual centre. At the Rainbow Centre planning was a collaborative process with both teachers and children operationalising the rule to accentuate challenge and risk in their work to advance the PAP programme object. This was supported through children having free access to the storage sheds where they could independently select equipment to meet their own goals. At the Pastel Centre, PD was a central component to the teaching teams’ work in the self-review and the PAP programme objects; for example, teachers utilised planning to ensure emergent interests were catered to, whilst also planning the space allocation to ensure there was enough area for vigorous activity unencumbered by too many resources. In Chapter Five I described an example of planning where Diane used the sandpit for a balance challenge in order to leave the grass area for children to engage with the moonhoppers. PD was also the impetus for a weekly perceptual motor programme focus, daily and weekly planning meetings, and changes to documentation, where the teachers’ understandings and response to children’s emergent interests were enhanced. PD led to a success in the activity system and the nature of PAP, where planning resulted in enhanced learning outcomes for children and was discussed in Chapter Five. In addition, these teachers often engaged with children during these activities, where intentional teaching was supported through planning. These findings fill a gap in knowledge by adding a PAP context to those of Sherley’s (2011) study of New Zealand kindergarten teachers’ support of mathematical learning. In Sherley’s study teachers also guided, supported, and developed learning through children’s interests.

There are synergies in how teachers from both studies supported numeracy development through planning within children’s emergent interests in contrast to some teachers in Foote et
al.’s (2004) study on literacy. In this study, some teachers reverted to a structured and skills-based focus where literacy learning became “a more focused, didactic approach” (Foote et al., p.141). The findings at the Pastel Centre illustrated the teachers’ vigour and enthusiasm for the PAP programme, developed through their work in self-review and PD, where children’s emergent interests were valued. This was reflected in the teachers’ beliefs, values, competency, and confidence adding to the arguments of many international studies on the importance of pre-service and in-service PAP training opportunities (Gagen & Getchell, 2006; Helm & Boos, 1996; Martynuik & Tucker, 2014; Suthers & Larkin, 1996; Vives-Rodriguez, 2005). In the next section, I discuss teachers’ beliefs and values in facilitating PAP in order to answer the research question, what are teachers’ beliefs and values surrounding their role in facilitating PAP?

**Teachers’ beliefs and values about PAP.**

Teachers’ beliefs and values had a profound effect on the nature of PAP experiences for children. In this section, I discuss how teachers amalgamated free play and structured activities into their pedagogies in order to advance self-review and the PAP programme. I describe the range of teaching strategies, and subsequent rules which represented teachers’ beliefs and values for practice. I discuss the use of teacher participation which led to rich teacher-child interactions and finally new rules which developed as a result of misaligned beliefs, values and practices. In one centre, the teaching teams’ beliefs and values limited children’s access to PAP.
Both free play and structured activities were incorporated into the PAP programme at four centres in this study, where the addition of structured activities sometimes stemmed from their work in other objects. For example, at the Sunrise Centre structured activities were added to the PAP programme as a result of the teachers’ work in self-review. At the Rainbow Centre Jump Jam was added to the PAP programme through new resources adopted through self-review, while Playball© stemmed from the teachers’ work in parent education at the Pastel Centre. Teachers in all the centres expressed the importance of children learning through free play, where children set their own goals and adapted resources, because child-initiated ideas were valued. In addition, some teachers in each of the centres also valued a degree of structure. My findings revealed some structured PAP activities were being incorporated both indoors and outdoors at four centres, either through mat-times or in games or activities. Some examples included, Playball© at the Sunrise Centre, soccer at the Pastel Centre, Yoga at the Funtimes Centre, and Jump Jam at the Rainbow Centre. At the Sunrise Centre, the addition of structured activities undermined some of the teachers’ beliefs in offering a strictly free play philosophy, resulting in a contradiction. However, in their work to advance the PAP programme object through free play and structured activities, these teachers observed benefits to children’s learning outcomes through the addition of some structured activities. As a result, this contradiction was mitigated when Danielle and Faith expanded their beliefs in free play to encompass values found in some structured PAP activities, which they incorporated into their teaching pedagogies. Moreover, the value of structured PAP was also being explored by the teaching team at the Funtimes Centre. At this centre, teachers had prioritised the development of structured activity sessions as another object in their activity system, where their work had led them to embed a new instrument of yoga. However, notwithstanding a degree of structure at each of the centres (as previously mentioned), free play was revealed as the dominant value espoused by teachers in their work.
in advancing the PAP programme. This came through strongly in each of the five centres activity systems analyses where children setting their own goals and adapting resources to their needs featured in the community elements. In addition, teachers’ belief in and valuing of free play was often reflected as a rule in the activity systems. The cross-case analysis has revealed that in four centres both free play and structured PAP were being utilised for the advantages they offered in affecting change in the nature of PAP, which would lead to their achievement of the ultimate outcome of a quality PAP programme underpinned by Te Whāriki. Through both structured and unstructured PAP opportunities, children were supported in a great deal of agency and flexibility in the way they could choose to participate or engage in different styles of PAP experiences.

Teaching strategies reflected the teachers’ beliefs and values surrounding the provision of quality early childhood education and care and were significant to their work in advancing the self-review object. Teaching strategies as an instrument or teachers’ beliefs and values being enacted as rules for practice was evident across the five activity systems. The findings revealed that teachers at the Sunrise, Pastel, Funtimes, and Rainbow Centres had aligned their practices with sociocultural teaching and learning perspectives, where strategies of modelling, scaffolding, and encouragement were valued in advancing the PAP programme. For example, at the Pastel Centre, teachers’ beliefs that children learn through scaffolding and peer support (particularly from teachers) was reflected in their rule that teacher participation reflected quality practice, evidenced through the vignette, “walking the plank” in Chapter Five. These findings are consistent with other New Zealand studies where teachers have viewed their roles as important for co-constructing knowledge through joint attention and active involvement with children (Greenfield, 2007; Nuttall, 2003). The rule at the Pastel Centre, where participation reflected quality practice, encompasses the children’s
desire for teachers to be both a play partner and caregiver which was identified in Greenfield’s (2007) study. However at the Funtimes Centre, teachers believed that their participation could reduce children’s peer interactions and children’s sense of autonomy, reflecting a more child-centred perspective on teaching and learning. When these teachers were swayed by more positive aspects resulting from their participation, such as increased child engagement with PAP and opportunities to support targeted physical skill development, teachers re-evaluated their beliefs and values surrounding their own participation. This resulted in a new and more versatile instrument of teaching strategies adapted to meet the teachers’ goals. Teachers at the Rainbow Centre also believed in the value of participation; however, they felt that their active participation in activities was not always necessary and instead would use provocations as an alternative strategy to incite activity. Using such a strategy, teachers set up PAP activities and then withdrew to enable children to set their own goals and adapt the resources according to their emergent interests. The CHAT analysis revealed the use of teaching strategies as fundamental to these teachers’ aspirations in pursuit of their self-review and PAP programme objects.

Across all these centres, teacher participation led to many examples of rich teacher-child interactions in PAP, where valued learning outcomes resulted for children. Freshwater et al.’s (2008) Kenyan study argued that teachers who actively participated relayed to children that their play was valued. This was clearly demonstrated in my findings, as when teachers participated, children were empowered in their learning and teachers demonstrated their respect and mana for their play. An example was presented in Chapter Five where the learning story, “Kick it Max!” demonstrated how Diane’s engagement with Max led her to make explicit links to Max’s interests, learning dispositions, and motor skill development. In
the next section, I identify the contradictions hindering the teachers’ work in the PAP programme, many of which stemmed from teachers’ beliefs and values.

New rules eventuated at the Sunrise, Limelight, Funtimes, and Rainbow Centres after misaligned beliefs, values, and practices arose, creating contradictions in the activity systems, three of which arose from teachers’ risk anxiety. These contradictions hindered the teaching team’s aspirations for the PAP programme at three centres, and the self-review object at the Rainbow Centre. For example, at the Rainbow Centre during the red box activity teachers’ risk anxiety was in tension with the rule to accentuate challenge and risk. Other examples were demonstrated through the vignettes, “The balloon games” at the Limelight Centre, and “Feeling warm or cold” at the Sunrise Centre. At the Funtimes Centre, teachers’ risk anxiety was in contradiction with their rule to promote challenge and risk when teachers worked to advance their object of self-review. However, as previously discussed, this contradiction was acknowledged and ameliorated through instruments of PD and their work to uphold an organisational culture which valued pedagogical dialogue and reflection. Unfortunately, at the Rainbow, Limelight, and Sunrise Centres teachers had not recognised this constraint to their work in the PAP programme and therefore no form of redress was generated. This contradiction continued to hinder their PAP activity system, and their objectives could not be realised.

At the Limelight Centre, centre-level practices were a reflection of their core values where children’s safety and care were paramount. As such, their core systems prioritised that children stayed clean, were safe from the harmful effects of the sun, and were not hurt during PAP. Within these systems children’s access to PAP was compromised, where teachers’
beliefs and values resulted in limited time for children to access the outdoors or to engage in PAP indoors, hindering the teachers’ aspirations for the PAP programme. Even though these teachers espoused a strongly held collective belief in free play where opportunities for challenge and risk were valued, these were not consistent with teacher practices. For example, in the Limelight’s vignette, “The balloon games” it was revealed that teachers’ risk anxiety resulted in a low tolerance to risk, which undermined their values in children engaging in challenge and risk. In addition, teachers’ values that children should stay clean whilst at the centre led, to the children’s exploration of sand and water being curtailed in the vignette, “We are doing mucky work”. The sun protection policy also reflected their beliefs and values suggesting a preference for inside play when children could be harmed by the sun, when during the summer months outdoor access could be limited to 30 minute intervals. These findings reveal a relationship between attitudes, policy, and PAP, which Mikkelsen (2011) has described as a “relationship between the pedagogue’s attitudes towards promoting children’s physical activity, the policy framework that the institution has adopted regarding these issues and the physical activity of the children” (p. 14). Mikkelsen’s findings revealed this relationship to be positive amongst Danish kindergartens where PAP increased. However, it was found to be a negative influence in this study where PAP decreased as a result of attitudes and policy. Moreover, the teachers at the Limelight Centre remained unaware of the contradictions in their activity system which stemmed from their beliefs and values, all of which impeded their work in the PAP programme. This was apparent when the teachers talked about the use of their outdoor environment as being optimised each day.

In this section, I have argued that teachers’ beliefs and values were powerful factors in mediating the pursuit of the PAP programme. They proved to have a profound influence on all system elements when contradictions were generated hindering the PAP programme. As a
result, children’s opportunities to engage with challenge and risk, to set their own goals, and explore independently were restricted. A significant conclusion drawn from this cross-case analysis was that teachers were unaware that these contradictions were evident. Teachers were impervious to the misalignment of their beliefs, values, and practices and the implications for children therein. Therefore, I conclude that there is a need for teachers to develop an understanding of their own and others’ beliefs, values, and practices to support their own growth and that of their team. CHAT analysis provides a means for teachers to make contradictions visible and utilise expansive learning to improve the PAP provision. Moreover, discussing and developing a common purpose and shared image of the child is vital to the functioning of the team in advancing the objects of their PAP activity system. Otherwise, these contradictions will remain symptomatic of this disparity between beliefs, values, and practices, and ultimately their work in advancing their aspirations for the PAP programme.

In the preceding sections of this chapter I have presented the cross-case conclusions surrounding significant recurring and interconnected elements of the PAP activity systems in the five centres investigated in my study. I have demonstrated how this study has added to the body of knowledge by filling gaps which were identified in the literature review. These included exploring how PAP was being facilitated as part of the curriculum where children experienced play that exerted and exercised the body through experiences, activities and events where learning occurred. In each of these centres, the PAP programme was supported by *Te Whāriki* (Ministry of Education, 1996) as a descriptive model (rather than a syllabus approach) of curriculum and was delivered through both structured and unstructured methods. Within the five centres I established that individual teachers did not all share the same beliefs, values, and theories and showed how these were amalgamated as they worked
as a collective teaching team. I revealed how access to PD and new knowledge influenced the teachers’ work in PAP, as it supported their role as advocates in the importance of PAP, challenge, and risk. This exploration generated findings on how teachers worked to balance safety and learning, where routines, policies, and regulations were significant factors. In the following section, I provide the concluding comments and contributions made as a result of this study. I provide a number of recommendations and identify future avenues to extend this research, as I also highlight the limitations of my study.

**Research Implications, Contributions and Future Avenues**

Overall, regulations were perceived as undervaluing the knowledge, skills, and experience of these early childhood teachers, offering consistent findings with several New Zealand and international studies (Coleman & Dyment, 2013; Duhn, 2012; Dyment & Coleman, 2012; Fenech & Sumsion, 2007; Stephenson, 2003). Regulations, while supporting safety aspects within the environment, did hinder the teachers’ provision of challenge and risk. Teachers also criticised the regulations as being more stringent than the constraints children would experience in their daily lives outside the early childhood environment. These findings have provided further insight into teachers’ perceptions of the regulations and their effect on the nature of PAP for children in New Zealand early childhood centres. In order for this research to have a practical application, I suggest that the regulatory body provide an avenue for teachers to present their concerns and what they consider to be unworkable constraints through a complaint mechanism. In Australia, teachers who were able to raise areas of ambiguity in the regulations and untenable constraints mitigated these through complaint mechanisms with their regulatory body (Fenech & Sumsion, 2007). It is important that teachers in New Zealand have an opportunity to share such power relations. An evaluation of
the current regulations, in consultation with teachers, would aid this process. Teachers might then be able to generate strategies to overcome the contradiction hindering each of their PAP activity systems surrounding these regulations.

Several instruments were significant to the teachers’ work in achieving their aspirations for PAP, and in realising significant successes in their activity systems. PD was accessed through external and internal sources and led to knowledge building, new instruments, motivation, and successes in the PAP activity systems. Teaching strategies and structured activities were found to be versatile instruments incorporated into the teachers’ pedagogies at four centres. A significant finding of this study was the continued growth of teachers and their openness to new ways of teaching where children’s PAP experiences and learning benefited. For example, teachers considered ways to integrate structure and free play, where children’s mana would be supported and children’s learning outcomes enhanced. Increased teacher participation and teacher-led activities proved fruitful additions from which many rich teacher-child interactions stemmed. These findings enhance our understanding of the instruments being utilised by teachers in their work as they strive to enhance the nature of PAP for children in New Zealand early childhood centres. A practical implication of this study is the importance of professional knowledge and learning generated through attending PD courses and when teachers engaged in PD through a community of practice. From the findings of this study there is scope to consider how PD could be made more readily available to teachers to ensure that they have the support they require to achieve their aspirations for PAP. Such measures could include a greater range of PAP professional development courses, drawing attention to the practical value of in-centre community of practice PD, and opportunities for multiple centre community of practice knowledge building initiatives. Future researchers could consider an intervention study utilising different forms of PD to
ascertain the style and information which teachers deem most useful and adaptable in supporting PAP in their centre environments.

The findings from four of the centres in this study provided evidence of teachers as strong advocates for children’s engagement in PAP, which they clearly communicated to parents. Aligning their beliefs and values with those of parents was identified by teachers as crucial to their work in parent education. There are synergies between these and Chow and Humbert’s (2014) Canadian results, where one teacher responded, “I think it would definitely make a difference for encouraging physical activity more if they (parents) had more knowledge about it” (p. 64). At the Rainbow Centre educating parents was successful in elevating children’s opportunities to engage in PAP, challenge, and risk in the early childhood centre and at home. In their work in parent education, teachers were able to promote a physically active lifestyle for all members of the family, where children were empowered to be advocates too. Through this CHAT analysis I was able to reveal how instruments such as conversations with parents, family events, learning stories and use of the local park were utilised by teachers to achieve success in realising their aspirations for parent education. A practical implication of this study in relation to policy where parent-teacher partnerships could be enhanced is prioritising support for parents to be invited to learn with and alongside teachers and children as a community of practice to support PAP and programme reviews.

In this study, teachers’ beliefs, values, and practices were often found to be misaligned as a result of risk anxiety, resulting in new rules that restricted children’s PAP experiences. Teachers’ tacit rules which overrode the activity systems rules (for example to promote challenge and risk) led to a myriad of contradictions which hindered the teachers’ work in
advancing their objects. These remained unaddressed in all of the centres (excluding the Funtimes Centre) as teachers were unaware of the disparity in their beliefs, values, and practices. However, at the Funtimes Centre this contradiction was ameliorated through open dialogue and reflection within and about their organisational culture. This team engaged in regular discussions about their risk anxieties where they portrayed a great deal of trust in testing out their thinking and beliefs with one another. In such discussions, collegial support was extended and strategies developed to increase their tolerance to risk. As the teachers’ sense of well-being was enhanced, they were more able to support children’s engagement with challenge and risk in the outdoor environment. This was a significant finding of this study, providing a way forward to overcome risk anxiety, and which may be valuable to others. I argue that there is an urgent need for teachers to share their beliefs, values and risk anxieties with those in their team, and discuss the image they hold of the child and how this is reflected in practice. This will precipitate a way forward in mitigating such contradictions as found in this study.

This study offers empirical evidence for a better understanding of how PAP is facilitated in New Zealand early childhood centres. This has been provided through the lens of second generation CHAT used as an analytical tool to explore the individual and collective activity systems, and reveal the tensions and contradictions in the systems. Activity systems analysis offers a unique perspective on contextualised practice. Earlier in this cross-case analysis chapter, I have argued how CHAT has been utilised as a tool for knowledge generation, making it possible to develop an understanding of the holistic view of PAP being enacted in these centres. Throughout the activity systems analysis, contradictions hindering the development of the objects being prioritised at the centres were made visible. Through utilising CHAT I was able to explore how existing contradictions were being addressed by
the teaching teams, and how their work to mitigate these sometimes led to new contradictions being generated. I was able to reveal how teaching teams often dealt with multiple contradictions in their work in enhancing their PAP programmes, where managing contradictions became part of centre life and the expansive learning process they were engaged in as they sought to support PAP curriculum. As such, a significant contribution of this study is the utility of CHAT to analyse teachers’ work in the interests of expansive learning in educational environments. Due to contradictions and tensions being rooted in social practice they can be difficult to identify and articulate using alternative analytical methods to CHAT (Yamagata-Lynch, 2010). CHAT provides an important tool for the analysis and evaluation of programmes where dynamic relationships exist between teachers, children and other community members such as parents, boards, and management structures (Barab et al., 2002; Barab, Schatz, & Scheckler, 2004; Johanssen & Rohrer-Murphy, 1999; Roth & Tobin, 2002, 2004; Yamagata-Lynch, 2003). However, Yamagata-Lynch (2010) has argued that studies of activity systems must be carefully communicated through activity system elements which are subject, instrument, object, rule, community, and division of labour, in light of strong background information about the system, to assist their audience to interpret their work. Thus the value of case study method with CHAT addresses this demand.

Stith and Roth (2008) have argued that CHAT theory enables change-oriented collective work to ensue where CHAT can be utilised as theory for praxis, as well as praxis of theory. For example, in science education in secondary schooling, CHAT has led to the development of a co-teaching model. Roth and Tobin (2002, 2004) concluded that new teachers learnt to enhance pedagogical practices by participating in the praxis of teaching science alongside a more experienced peer, while also learning collaboratively about the praxis of teaching for the purpose of designing change (Roth & Tobin, 2002, 2004). I argue it is possible to draw
similar conclusions with the findings at the Funtimes Centre where transformation as a collective endeavour was valued collectively by the teaching team. At this centre, a high level of trust and honesty between the teachers supported their critique and development of teaching practices but also their skill in designing change into the PAP programme where children could more readily engage in risk and challenge. Even though I did not work collaboratively with the centre to analyse and interpret the activity system at these five centres, the CHAT analysis offers a powerful indicator of the teachers’ work in their objects which could be the catalyst for teachers themselves to engage with CHAT. I consider this would make an important future research avenue where I could support a cluster of early childhood centres to work collaboratively to develop their working knowledge of CHAT, and its utility in expansive learning in supporting PAP. My research goal would be for teaching teams to utilise the activity systems model to recognise tensions in their work towards objects impacting on the outcome of a quality PAP programme. It would be expected that teaching teams would develop both an understanding of their own and other centres’ activity systems, and the tensions and contradictions teachers worked to overcome. By working as a community of practice, teachers across centres would be able to develop a higher level of complexity in their thinking about CHAT, how to mitigate contradictions hindering their goals, and designing change to enhance their PAP programmes. This future research would provide an aspect of relational agency, described by Edwards and Mackenzie (2005) as involving, “a capacity to offer support and to ask for support from others…One’s ability to engage with the world is enhanced by doing so alongside others” (p. 294). Relational agency and generating a change capacity were not aspects I was able to support in this current exploratory study utilising second generation CHAT. However, I was able to analyse and discuss how relational agency and a change capacity were being utilised, particularly at the Funtimes Centre developed through the leadership of Ella, the centre manager. In this study,
I was able to offer an interpretation of teachers’ lived experiences in facilitating PAP as part of the curriculum at these five centres, where some of the analysis and findings were confronting and yet so valuable to share in order that these understandings can lead to future research and change capacity. Yamagata-Lynch (2010) has argued that, “Investigators can arrive at meaningful and trustworthy conclusions only when they have a comprehensive data set that represents authentic participant experiences” (p. 131). A significant research implication of this study was the importance of observations which gave me an entryway to vicariously experience and interpret the teachers’ and children’s engagement in the PAP programme. In some of the observations teachers would verbally qualify their decisions in PAP which I recorded and interjected as the teachers’ voices into the analysis. This was an unexpected but valued dimension of the observations in this study. While activity systems analysis has been criticised for oversimplifying human psychology and behaviour without generalisable outcomes (Avis, 2009; Yamagata-Lynch, 2007), I can attest to its usefulness in providing a comprehensive and holistic view of PAP in early childhood centres where the findings have provided significant implications towards learning. Guided by the holistic view of CHAT and the findings revealed in this study through my interpretation of the data, I have suggested recommendations for effective pedagogical practice and policy to support the enhancement of PAP programmes in early childhood centres. I can attest to the usefulness of this theory and scope for considering problems within practice, which I have demonstrated in this study where I have answered the following main research question and four research sub-questions:

- What is the nature of PAP in city-based early childhood centres in New Zealand?
- What are teachers’ aspirations for PAP and how are they able to realise these?
- How do teachers manage the learning environment to support emerging interests in the physical curriculum?
• How is the physical education curriculum planned and implemented?
• What are teachers’ beliefs and values surrounding their role in facilitating PAP?

Final Concluding Comments

This is an important study because while children should experience PAP in the curriculum where teachers support children’s physical development, this was not always evident in the data collected. PAP programmes offer children a multitude of learning opportunities and encourages a broad range of dispositions. Early childhood education programmes are well placed, not only to combat the effects of increased urbanisation and a possible lack of recreational time with families, but to support physical activity as a sphere in its own right.

This study has added to the limited New Zealand research, providing an understanding of the complexity and dynamic interrelationships within the PAP activity systems of these centres. I have explored the process of interactions within the elements of the activity system to understand the tensions, contradictions, and successes. This exploration has provided important data which could be used to identify policy enhancements and programme reviews.

Practical implications arising from this study in relation to policy enhancements could include supporting teacher-parent partnerships, and professional knowledge and learning identified as significant factors in enhancing the quality of PAP programmes. While this study is limited in that direct generalisations can not be drawn, this multiple case study approach does strengthen inferences which could be made from the recurring factors found.

The multiple sources of evidence collected at each early childhood centre allowed me to consider alternative explanations, undertake careful cross checking, and provide rich descriptive data. Throughout, I have worked to provide a trustworthy study where these
findings could offer valuable contributions to the existing body of knowledge on the nature of PAP in early childhood education.
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Appendices

Appendix A: Overview of Te Whāriki
THE PRINCIPLES, STRANDS, AND GOALS FOR THE EARLY CHILDHOOD CURRICULUM

THE PRINCIPLES

There are four broad principles at the centre of the early childhood curriculum.

Empowerment

The early childhood curriculum empowers the child to learn and grow.

Holistic Development

The early childhood curriculum reflects the holistic way children learn and grow.

Family and Community

The wider world of family and community is an integral part of the early childhood curriculum.

Relationships

Children learn through responsive and reciprocal relationships with people, places, and things.

NGĀ KAUPAPA WHAKAHAERE

E whā ngā kaupapa whakahaere kua whakautūria hei kawe i tēnei tikanga i roto i ngā kōhangaroa. Ko te mahi a ēnei kaupapa he whakatakorotia wānahi mō ngā tauaia whakahihira me ngā tuinaika mō ngā mokopuna. I tua atu i tēna ko te ārahi i ngā mahi ako, ā, ko te āwhina hoki i ngā mahi tētēri.

Ko ngā whakamārama mō ēnei ūhuatanga katoa kia whai ake.

Whakamana

Mā te whāriki o te kōhangaroa e whakatō te kaha ki roto i te mokopuna, ki te ako, kia pakari ai tana ūhuatanga.

Kotahitanga

Mā te whāriki o te kōhangaroa e whakataua te kotahitanga o ngā whakahaere katoa mō te ako a te mokopuna, mā te ūhuatanga o te mokopuna.

Whānau Tangata

Me whiri mai te whānau, te haruru, te iwi, me tau iwi, me ō ratou wahihai nohunga, ki roto i te whāriki o te kōhangaroa, he i āwhina, hei tautoko i te ako karto, i te whakatipua te mō te mokopuna.

Ngā Hononga

Mā roto i ngā piranga, i ngā whakahaere i waenganui i te mokopuna me te katoa, e whakatō te kaha ki roto i te mokopuna ki te ako.
STRANDS AND GOALS

The strands and goals arise from the four principles. The whāriki is woven from these four principles and from the following five strands, or essential areas of learning and development. The principles and strands together form the framework for the curriculum. Each strand has several goals. Learning outcomes have been developed for each goal in each of the strands, so that the whāriki becomes an integrated foundation for every child’s development.

Strand 1:
Well-being – Mana Atua

The health and well-being of the child are protected and nurtured.

Goals

Children experience an environment where:
- their health is promoted;
- their emotional well-being is nurtured;
- they are kept safe from harm.

Strand 2:
Belonging – Mana Whenua

Children and their families feel a sense of belonging.

Goals

Children and their families experience an environment where:
- connecting links with the family and the wider world are affirmed and extended;
- they know that they have a place;
- they feel comfortable with the routines, customs, and regular events;
- they know the limits and boundaries of acceptable behaviour.
<table>
<thead>
<tr>
<th>Strand 3: Contribution – Mana Tangata</th>
<th>Strand 5: Exploration – Mana Aotūroa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities for learning are equitable, and each child’s contribution is valued.</td>
<td>The child learns through active exploration of the environment.</td>
</tr>
</tbody>
</table>

**Goals**

<table>
<thead>
<tr>
<th>Strand 4: Communication – Mana Reo</th>
</tr>
</thead>
<tbody>
<tr>
<td>The languages and symbols of their own and other cultures are promoted and protected.</td>
</tr>
</tbody>
</table>

**Goals**

<table>
<thead>
<tr>
<th>Children experience an environment where:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- there are equitable opportunities for learning, irrespective of gender, ability, age, ethnicity, or background;</td>
</tr>
<tr>
<td>- they are affirmed as individuals;</td>
</tr>
<tr>
<td>- they are encouraged to learn with and alongside others.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Children experience an environment where:</th>
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<tr>
<td>- their play is valued as meaningful learning and the importance of spontaneous play is recognised;</td>
</tr>
<tr>
<td>- they gain confidence in and control of their bodies;</td>
</tr>
<tr>
<td>- they learn strategies for active exploration, thinking, and reasoning;</td>
</tr>
<tr>
<td>- they develop working theories for making sense of the natural, social, physical, and material worlds.</td>
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</tbody>
</table>

<table>
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<tr>
<th>Children experience an environment where:</th>
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<tbody>
<tr>
<td>- they develop non-verbal communication skills for a range of purposes;</td>
</tr>
<tr>
<td>- they develop verbal communication skills for a range of purposes;</td>
</tr>
<tr>
<td>- they experience the stories and symbols of their own and other cultures;</td>
</tr>
<tr>
<td>- they discover and develop different ways to be creative and expressive.</td>
</tr>
</tbody>
</table>
Appendix B: Managers, teachers and parents’ information sheets

Reference Number as allocated upon approval by the Human Ethics Committee 14/111

AN EXPLORATION OF THE NATURE OF PAP IN NEW ZEALAND EARLY CHILDHOOD EDUCATION.

INFORMATION SHEET - CENTRE MANAGERS/ OWNERS/ TRUSTS/ COMMITTEES

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part there will be no disadvantage to you, and we thank you for considering our request.

What is the Aim of the Project?

This project is being undertaken as part of my requirements for the EdD (Doctorate of Education). I want to explore the nature of PAP in early childhood centres. This will help me to understand teachers’ practices and theories about facilitating PAP. Using a qualitative methodology, I aim to gather rich descriptions and accounts of practice from the teachers at
your centre to address the question: What is the nature of PAP in city-based early childhood centres in New Zealand?

**What Type of Participants are Being Sought?**

I would like to invite all the teachers employed at your early childhood centre to participate in this project.

**What Will Participants be Asked to Do?**

Should you agree to take part in this project, the teachers at the centre will be asked to

- Provide centre demographic details including: the centre’s philosophy, the number, age and ethnicity of the children attending, the number of teachers, and whether children have free or restricted access to the outdoor environment.
- Provide demographic information about themselves and answer several questions in an open ended survey. This survey will assist me in developing an understanding of each teacher’s views, motives, values, beliefs and practices, in relation to PAP. The kinds of questions considered for inclusion in the survey will be: During my observations, what would you like me to notice in your planning and facilitation of PAP? Is this a curriculum area you feel confident in facilitating? What are your aspirations for improvements in this area of curriculum? What are your personal beliefs and values surrounding your role in facilitating PAP? What barriers and enablers do you encounter in your teaching role in promoting PAP? How could the barriers you discussed be overcome? Do you engage in PAP alongside children (why or why not?). Do you personally have any specific rules surrounding physical activity
and risk taking either inside or outside? What are these rules and why did you implement them?

- Participate in a group interview which will include all members of the teaching team in your early childhood centre. The group interview with your teaching team will help me to understand more about your centre, the shared vision you have for quality in early childhood education, and how you support a PAP programme. The kinds of questions I wish to ask teachers include: Does your centre have aspirations for PAP. If so what are these and how are they realised? What expectations do you think parents have regarding their child’s physical skill development? How do you meet these expectations? How do you encourage general physical activity in the learning environment? How is the PAP programme planned and implemented? Can you give me some recent examples of how you or any of your colleagues have managed the learning environment to support emerging interests in the PAP programme? How do you think children’s physical skills are challenged in the learning environment? Please give examples. What is your sense of how the team here works in relation to the beliefs and values of the PAP programme? Is there anything else you would like to share with me about your PAP programme? I will use a recording device and a video to help me with transcribing the interview.

- I also want to collect information about the PAP programme in action by observing teachers at your centre. This will happen over a three day period over the complete hours of centre operation. At each observation visit I will identify with teachers any specific programme area, activity or event that has been planned as part of the PAP curriculum. I will write narrative and descriptive observations of activity in the area at regular 15 minute intervals. In addition, I will write narrative and descriptive observations of any teacher-led or child-initiated PAP activity that occurs during the
observation period. I will write field notes about children’s and teachers’ engagement in PAP experiences at each visit.

- I will also need access to your centre documents which are relevant to the PAP programme in your centre. These could include policies, procedures, supervision ratios, a centre area plan and planning documentation relevant to facilitating PAP. I will also take notes or draw diagrams of the environment and resources specific to each centre. I will take photographs (if children are not present) of fixed and movable equipment.

**Time Commitment Required**

The project will involve me attending your centre for one week during the full hours of centre operation. Although I am a registered and practicing early childhood teacher, while I am in your centre conducting this research I will be a non-participant researcher. This means I will not involve myself in play with the children or take on a teaching role. It is expected that the survey will take each teacher 30 minutes to complete, while the group interview will require 90 minutes.

Please be aware that you may decide not to take part in the project. If so, this decision can be made without any disadvantage to yourself of any kind.

**What Data or Information Will be Collected and What Use Will be Made of it?**

- Centre demographic information will be gathered including the centre’s philosophy, the number, age and ethnicity of the children attending, the number of teachers and
whether children have free or restricted access to the outdoor environment. This information will be used to provide a general overview of the centre.

- The open ended survey will begin by gathering demographic information about each teacher (for example: age range, teaching experience, training, and ethnicity). I will use this data to describe the teacher anonymously as a participant in this study. The teacher is not required to provide all the personal information I request. If the teacher decides to not provide information their participation in the study will not be compromised. The open ended survey will then ask the teacher several questions about their beliefs and practices in facilitating physical activity in your centre. Small sections of this information may be included in the study as a quotation to illustrate the findings of this study. All data excerpts used to write up the study or used in subsequent publications and presentations will be anonymous.

- The group interview will be audio recorded and video recorded, and I will transcribe all the data. Excerpts from the group interview transcript will be anonymous and used to illustrate the findings in the study and in subsequent publications and presentations.

- Observations will include the collection of field notes which will be used to expand on the survey and group interview information. Excerpts used in the study and subsequent publications and presentations will use pseudonyms to maintain anonymity.

- Documentary evidence will also be collected and used to illustrate the findings of the study. Sketches of the outdoor area, or resource lists or photographs (which will not include children), may be used to contrast the different settings of the city-based early childhood settings.
• Only the researcher and the supervisors of this EdD study will view any part of the raw data except when it is used to illustrate findings in the final research document for submission.

• You have rights of access to any demographic information collected about your centre as a case study participant in this study; this includes the right to correct or update information about your centre in this study.

• Transcripts will be provided to the teachers for checking, to give them the opportunity to correct or remove any disclosures that may cause harm or embarrassment. This opportunity will be provided at the completion of the data collection phase in December.

Data Storage and Security Statement

The data collected will be securely stored in such a way that only I and my Otago University supervisors will be able to access it. Data obtained as a result of the research will be retained for at least 5 years in secure storage. Any personal information held on the participants (audio and video tapes of group teacher interviews), after they have been transcribed may be destroyed at the completion of the research even though the data derived from the research will, in most cases, be kept for much longer or possibly indefinitely.

• The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve your anonymity. Participants are welcome to request a copy of the results of the study from the researcher.
• Data and personal information reflected in the completed research will be reported anonymously and will not include any personal or identifying information.

Can Participants Change their Mind and Withdraw From the Project?
Participation is voluntary and you may withdraw from participation in the project at any time up until raw data is transcribed, without any disadvantage to yourself, of any kind. This means that any data produced in the study that involves you will be removed from the analysis and reporting.

What if Participants Have Any Questions?
If you have any questions about our project, either now or in the future, please feel free to contact either:-

Helen Emberson and Dr Alex Gunn
Student researcher College of Education
Telephone Number: 0276583379 Telephone Number: (03) 479 4261
Email Address: h.emberson@xtra.co.nz Email Address: alex.gunn@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.
AN EXPLORATION OF THE NATURE OF PAP IN NEW ZEALAND EARLY CHILDHOOD EDUCATION.

INFORMATION SHEET - EARLY CHILDHOOD TEACHER PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part there will be no disadvantage to you, and we thank you for considering our request.

What is the Aim of the Project?

This project is being undertaken as part of my requirements for the EdD (Doctorate of Education). I want to explore the nature of PAP in early childhood centres. This will help me to understand teachers’ practices and theories about facilitating PAP. Using a qualitative methodology, I aim to gather rich descriptions and accounts of practice from you to address the question: What is the nature of PAP in city-based early childhood centres in New Zealand?
What Type of Participants are Being Sought?

I would like to invite all the teachers at your early childhood centre to participate in this project.

What Will Participants be Asked to Do?

Should you agree to take part in this project, you will be asked to

- Provide centre demographic details including: the centre’s philosophy, the number, age and ethnicity of the children attending, the number of teachers, and whether children have free or restricted access to the outdoor environment.

- Provide demographic information about yourself and answer several questions in an open ended survey. This survey will assist me in developing an understanding of each teacher’s views, motives, values, beliefs and practices, in relation to PAP. The kinds of questions considered for inclusion in the survey will be: During my observations, what would you like me to notice in your planning and facilitation of PAP? Is this a curriculum area you feel confident in facilitating? What are your aspirations for improvements in this area of curriculum? What are your personal beliefs and values surrounding your role in facilitating PAP? What barriers and enablers do you encounter in your teaching role in promoting PAP? How could the barriers you discussed be overcome? Do you engage in PAP alongside children (why or why not?). Do you personally have any specific rules surrounding physical activity and risk taking either inside or outside? What are these rules and why did you implement them?
• Participate in a group interview which will include all members of the teaching team in your early childhood centre. The group interview with your teaching team will help me to understand more about your centre, the shared vision you have for quality in early childhood education, and how you support a PAP programme. The kinds of questions I wish to ask you include: Does your centre have aspirations for PAP. If so what are these and how are they realised? What expectations do you think parents have regarding their child’s physical skill development? How do you meet these expectations? How do you encourage general physical activity in the learning environment? How is the PAP programme planned and implemented? Can you give me some recent examples of how you or any of your colleagues have managed the learning environment to support emerging interests in the PAP programme? How do you think children’s physical skills are challenged in the learning environment? Please give examples. What is your sense of how the team here works in relation to the beliefs and values of the PAP programme? Is there anything else you would like to share with me about your PAP programme? I will use a recording device and a video to help me with transcribing the interview.

• I also want to collect information about the PAP programme in action by observing you. This will happen over a three day period over the complete hours of centre operation. I will observe your practices, strategies, behaviours, activities, participation and interactions in relation to your role in facilitating PAP. I will also focus my observations on the information you provided in your initial teacher survey and the information from the group interview. I will use a timer to observe each teacher every 15 minutes. I will make field notes over a 3 day period.

• I will also need access to your centre documents which are relevant to the PAP programme in your centre. These could include policies, procedures, supervision
ratios, and planning documentation relevant to facilitating PAP. I will also take notes or draw diagrams of the environment and resources specific to each centre. To help me with this I might ask you if I can take photographs (if children are not present in those areas) of fixed and movable equipment. I will also ask for an area plan of the centre if one is available to copy.

**Time Commitment Required**

The project will involve me attending your centre for one week during the full hours of centre operation. Although I am a registered and practicing early childhood teacher, while I am in your centre conducting this research I will be a non-participant researcher which means I will not involve myself in play with the children or take on a teaching role. It is expected that the survey will take each teacher 30 minutes to complete, while the group interview will require 90 minutes.

Please be aware that you may decide not to take part in the project. If so, this decision can be made without any disadvantage to yourself, of any kind.

**What Data or Information Will be Collected and What Use Will be Made of it?**

- Centre demographic information will be gathered including the centre’s philosophy, the number, age and ethnicity of the children attending, the number of teachers and whether children have free or restricted access to the outdoor environment. This information will be used to provide a general overview of the centre.
• The open ended survey will begin by gathering demographic information about you (for example: age range, teaching experience, training, and ethnicity). I will use this data to describe you anonymously as a participant in this study. You are not required to provide all the personal information I request. If you decide to not provide information your participation in the study will not be compromised. The open ended survey will then ask you several questions about your beliefs and practices in facilitating physical activity in your centre. Small sections of this information may be included in the study as an anonymous quotation to illustrate the findings of this study and in subsequent publications and presentations.

• The group interview will be audio recorded and video recorded for transcription. Anonymous excerpts from the group interview will be used to illustrate the findings in the study and in subsequent publications and presentations.

• Observations will include the collection of field notes which will be used to expand on your survey and group interview information. Exerts used in the study, publications and presentations will use pseudonyms to maintain your anonymity.

• Documentary evidence will also be collected and used to illustrate the findings of the study. Sketches of the outdoor area, or resource lists or photographs (which will not include children), may be used to contrast the different settings of the city-based early childhood settings.

• Only myself and the supervisors of this EdD study will view any part of the raw data except when it is used to illustrate findings in the final research document for submission.
• You have rights of access to any personal information collected about you as a participant in this study; this includes the right to correct or update information about you as a participant in this study.

• All the transcripts will be provided to you for checking, to give you the opportunity to correct or remove any disclosures that may cause you harm or embarrassment. This opportunity will be provided at the completion of the data collection phase in December.

Data Storage and Security Statement

The data collected will be securely stored in such a way that only I and my Otago University supervisors will be able to access it. Data obtained as a result of the research will be retained for at least 5 years in secure storage. Any personal information held on the participants (audio and video tapes of group teacher interviews), after they have been transcribed may be destroyed at the completion of the research even though the data derived from the research will, in most cases, be kept for much longer or possibly indefinitely.

• The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve your anonymity. Participants are welcome to request a copy of the results of the study from the researcher.

• Data and personal information reflected in the completed research will be reported anonymously with no personal or identifying information included.
Can Participants Change their Mind and Withdraw From the Project?

Participation in this project is voluntary. You may withdraw from participation in the project at any time up until raw data is transcribed, without any disadvantage to yourself, of any kind. This means that any data produced in the study that involves you will be removed from the analysis and reporting.

What if Participants Have Any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact either:-

Helen Emberson and Dr Alex Gunn
Student researcher College of Education
Telephone Number: 0276583379 Telephone Number: (03) 479 4261
Email Address: h.emberson@xtra.co.nz Email Address: alex.gunn@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research, you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.
Dear Parent

I am currently organising a research project exploring the nature of children’s PAP. Your centre management, and teachers, have agreed to participate and I will be working with your child’s early childhood teachers. I want to understand more fully how physical activity is, and could be supported, within early childhood education.

This research is being undertaken as part of my requirements for the EdD (Doctorate of Education) and I will be visiting between three and five early childhood centres in Auckland. I will be spending a week at your child’s centre where I will be interviewing the teaching team and also observing them (for three days) while they support PAP. During these teacher observations it is possible that your child may become indirectly involved in the study. This is because they may be participating in PAP with their teachers. Children may also be
participating in PAP which has been planned by teachers. Should this occur your child’s anonymity will be protected, and no personal identifying information will be gathered. In order to provide the children with general information about the study, I will develop a book to describe my purpose in the centre and general details of the study. This book will remain in each setting while I am collecting data, and be read each day. The book will communicate to children that they have the right to say that they do not want to be observed or have information written about them. Children’s wishes will be respected and all participation is voluntary. I will be taking photographs of fixed and movable equipment only when children are not present. No photographs or video recording will involve any children.

Should you give consent for your child to participate in the study, you reserve the right to withdraw at any time. There is a consent form attached to this letter for you to complete and return. There will be no early childhood centres, teachers or children identified in the study. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand).

If you wish to discuss any issues please talk to the teachers at the centre, or contact either myself or my colleague at the University of Otago through email or on the telephone number listed.

Yours truly,

Helen Emberson

Helen Emberson and Dr Alex Gunn

Student researcher College of Education
Telephone Number: 0276583379    Telephone Number: (03) 479 4261

Email Address: h.emberson@xtra.co.nz    Email Address: alex.gunn@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.
AN EXPLORATION OF THE NATURE OF PAP IN NEW ZEALAND EARLY CHILDHOOD EDUCATION.

CONSENT FORM FOR CENTRE MANAGERS/ OWNERS/ TRUSTS/ COMMITTIES

I (as the person responsible for the overall centre operation) have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. The centre’s participation in the project is entirely voluntary, and I am providing consent for this project to take place in this setting as I hold this responsibility.
2. The centre, for whom I am responsible, is free to withdraw from the project up until raw data is transcribed without any disadvantage.

3. Personal identifying information (including demographic information, audio and video recordings of group teacher interviews) will be destroyed at the conclusion of the project, but any raw data on which the results of the project depend will be retained in secure storage for at least five years.

4. The project involves collection of video and audio data and I (as the person responsible for the overall centre operation) consent to this. Audio and video data will be transcribed and used for analysis. Data will be reported anonymously.

5. Photographs will be taken of fixed and movable outdoor equipment when children are not present. No photographs will be taken of children.

6. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand).

I (as the person responsible for the overall centre operation) agree to take part in this project.

.......................................................... ..........................................................
(Signature of participant) (Date)

..........................................................
(Printed Name)
This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research, you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated, and you will be informed of the outcome.
AN EXPLORATION OF THE NATURE OF PAP IN NEW ZEALAND EARLY CHILDHOOD EDUCATION.

CONSENT FORM FOR EARLY CHILDHOOD TEACHER PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. My participation in the project is entirely voluntary.

2. I am free to withdraw from the project up until raw data is transcribed without any disadvantage.

3. Personal identifying information (including demographic information, audio and video recordings of group teacher interviews) will be destroyed at the conclusion of the project, but any raw data on which the results of the project depend will be retained in secure storage for at least five years.
4. The project involves collection of video and audio data and I consent to this. Audio and video data will be transcribed and used for analysis. Data will be reported anonymously.

5. Photographs will be taken of fixed and movable outdoor equipment when children are not present. No photographs will be taken of children.

6. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand).

I agree to take part in this project.

.............................................................................  ..............................................
(Signature of participant)  (Date)

.............................................................................
(Printed Name)

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research, you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated, and you will be informed of the outcome.
AN EXPLORATION OF THE NATURE OF PAP IN NEW ZEALAND EARLY CHILDHOOD EDUCATION.

CONSENT FORM FOR PARENTS/GUARDIANS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. My child’s participation in the project is entirely voluntary.

2. I am free to withdraw my child from the project at any time and without any disadvantage.

3. No personal identifying information about my child will be collected as part of the project.

4. Photographs will be taken of fixed and movable outdoor equipment when children are not present. No photographs will be taken of children.
5. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand).

I agree for my child to take part in this project.

.........................................................................................................

(Signature of parent/guardian) .........................................................

(Date)

.........................................................................................................

(Name of child)

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research, you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated, and you will be informed of the outcome.
Appendix D: Book explaining the study to children

My name is Helen

You did it!

I am an early childhood teacher.
I am interested in physical activity.
I am visiting your centre for a week.
I want to see how you enjoy physical activity in your centre.
I may take notes in a book while you play.
If you don’t want me to watch or write about what you are doing just come and tell me “no”.

I don’t want you to write about me.
THANKS FOR LETTING ME COME TO YOUR CENTRE.
Appendix E: Teachers open ended survey

Teacher Survey

AN EXPLORATION OF THE NATURE OF PHYSICALLY ACTIVE PLAY IN NEW ZEALAND EARLY CHILDHOOD EDUCATION.

This questionnaire will be collected on ________.

Demographic Information:

What is your name?

Please indicate your age range:

- under 20 years
- 20-29 years
- 30-39 years
- 40-49 years
- 50-59 years
- over 60 years

How many years of experience do you have as an early childhood teacher? _____

Do you hold an early childhood qualification? Yes [ ] or No [ ]

If your answer was yes, what type of early childhood qualification do you hold?

Which ethnic group do you belong to? Mark the space or spaces which apply to you

- New Zealand European
- Māori
- Samoan
- Cook Island Māori
- Tongan
- Niuean
- Chinese
- Indian
- Other such as Dutch, Japanese, Tokelauan
Are you descended from a Māori (that is, did you have a Māori birth parent, grandparent or great-grandparent etc)?

☐ Yes

Do you know the name(s) of your iwi (tribe or tribes)? Iwi: ________________________
Rehe (iwi area): ________________________

☐ No
☐ Don't know

1. During my observations what would you like me to notice in your planning and facilitation of physically active play?

2. Is this a curriculum area that you feel confident in facilitating? Please explain.

3. What are your aspirations for improvement in this curriculum area? Please consider resources, teachers promoting physical activity, an area of self-review, ideas for
increasing children's engagement in spontaneous physical activity, more professionalism development, increased diversity in the range of activities offered in the environment and children setting and pursuing their own physical goals.

4. What are your personal beliefs and values surrounding your role in facilitating physically active play? Please include your beliefs on free play and structured teaching methods,modelling and scaffolding, setting up the environment, providing opportunities for children's goal setting, challenge and risk taking.
5. What barriers and enablers do you encounter in your teaching role in promoting physically active play? Please include your thoughts on resourcing, ratios, policies, centre planning, your knowledge on this area, support from other teachers, parental encouragement or reluctance for their child to take risks, time to assess or plan, weather, outdoor time, supervision and how these factors and/or others impact your role.

6. How could the barriers you discussed be overcome?
7. Do you engage in physically active play alongside children? Why or why not? Please give examples.

8. Do you personally have any specific rules surrounding physical activity and risk taking either inside or outside? What are these rules and why did you implement them?

Thank you for your participation.
Appendix F: Centre demographic survey

Centre demographic details

AN EXPLORATION OF THE NATURE OF PHYSICALLY ACTIVE PLAY IN NEW ZEALAND EARLY CHILDHOOD EDUCATION.

The centre demographic details will be collected on the first day of my visit.

Demographic Information:

Could you please describe your centre philosophy or attach your centre's philosophy statement.

Please indicate the number of permanent teachers in your centre:

Part-time ☐ Full-time ☐

Please provide the number of children in each age range that make up your weekly roll:

2 years ☐ 3 years ☐
4 years ☐ 5 years ☐
Please provide the number of children and their ethnicity from your weekly roll:

☐ New Zealand European
☐ Māori
☐ Samoan
☐ Cook Island Māori
☐ Tongan
☐ Niuean
☐ Chinese
☐ Indian
☐ Other such as Dutch, Japanese, Tokelau

If there are children on your roll who are descended from a Māori (that is, they have a Māori birth parent, grandparent or great-grandparent etc.) could you please provide details of the iwi or tribes they belong to:

Iwi: ___________________ Rohe (iwi area): ___________________

Iwi: ___________________ Rohe (iwi area): ___________________

Iwi: ___________________ Rohe (iwi area): ___________________

Iwi: ___________________ Rohe (iwi area): ___________________

Iwi: ___________________ Rohe (iwi area): ___________________

Iwi: ___________________ Rohe (iwi area): ___________________

Iwi: ___________________ Rohe (iwi area): ___________________

Iwi: ___________________ Rohe (iwi area): ___________________

☐ Don’t know
1. Do children have free or restricted access to the outdoor environment within your centre's daily programme? For example: are there set times when children use the outdoor environment or do you have an open door policy where it is accessible throughout the day.

Thankyou
Appendix F: Group interview questions

**Group interview questions:**

Does your centre have aspirations for physically active play. If so what are these and how are they realised?

What expectations do you think parents have regarding their child’s physical skill development?

How do you meet these expectations?

How do you encourage general physical activity in the learning environment?

How is the physically active play programme planned and implemented?

Can you give me some recent examples of how any of you have managed the learning environment to support emerging interest in the physically active play programme?

How do you think children’s physical skills are challenged in the learning environment?

Please give examples.

What is your sense of how the team here works in relation to the beliefs and values of the physically active play programme?

How useful is Te Whāriki in supporting the physically active play programme in terms of assessment, planning and guidance?

In what ways do children benefit from the physically active play programme?

Is physical activity an area that has been raised for self-review recently?

Is there anything else you would like to share with me about your physically active play programme?