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An Investigation of Two Models of Professional Development to Support Effective Teaching through Play Practices in the Primary Classroom

A thesis presented in partial fulfilment of the requirements for the degree of
Doctor of Education

at Massey University, Manawatū,
New Zealand.

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2020

Abstract

The use of play as a pedagogical tool in schools and early learning settings is experiencing a rise in popularity. In recent years, primary teachers have shown an increased interest in how play can be implemented in junior primary school classrooms but have also expressed a need for further support to understand how to use play and intentional teaching to meet expected learning outcomes of the curriculum. While teachers have expressed support for, and knowledge of, the benefits of learning through play, the way in which they teach through play is less well understood. The aim of this study was to identify teachers' beliefs, knowledge and practices when implementing teaching through play in the primary school setting and investigate the impact of a professional learning and development (PLD) intervention on teachers' subsequent implementation of play pedagogies. The study utilised a mixed methods intervention research design. Participants were assigned to one of two PLD conditions: 1) professional learning workshops only; or 2) professional learning workshops in combination with practice-based coaching. The study utilised both quantitative and qualitative data collection strategies, including questionnaires, classroom observations, and individual interviews. The creation of a Play-Based Learning Observation Tool (P-BLOT) enabled the researcher to observe and quantify the frequency and implementation fidelity of evidence-based teaching practices, desirable in an effective play-based junior school classroom. Pre-intervention findings suggested a tension between what teachers know and believe about play as a pedagogical tool, and how they implemented teaching through play practices with fidelity in their classrooms. Post-intervention findings suggest that while participating in workshop-style PLD successfully increased teachers' knowledge about play pedagogies, it was participating in PLD that included practice-based coaching that positively influenced teacher behaviour and practices. These findings contribute to the growing international PLD literature identifying the value of more intensive PLD support over an extended period to ensure implementation fidelity of the complex teaching practices required of play pedagogy. PLD that combines workshop and coaching interventions can potentially

support teachers to effectively implement play pedagogies and ensure the implementation of intentional teaching methods through both child and adult-guided play experiences.

Acknowledgements

The journey to completed thesis is not, by any means, an individual one. It begins with the spark of an idea and some general enthusiasm. It grows with shared interest from those who may not necessarily be enthusiastic for the research topic itself but support the passion and thirst for knowledge that the journey brings along the way. It continues through the sticky spots, ups and downs, life moments that interrupt or contribute to the journey, and culminates in the sharing of information that hopes to inform and influence future researchers and practitioners alike. This section acknowledges the contribution of key people and organisations who have made this journey possible, and even enjoyable along the way.

Firstly, I would like to acknowledge my dear friend, Janene, for whom I hold solely responsible for sparking the idea to pursue doctoral level research. Thank you for your simple comment of “you should do your doctorate” and thereby planting the seed that has grown into such a significant portion of my life. There were days when your suggestion was cursed, and others when it was celebrated. In completing this thesis those celebrations far outweigh the cursed moments.

Mum and Dad, I cannot possibly sum into words the influence you have had on my life and how ‘way has led onto way’ so that I find myself acknowledging you in what now feels like my life’s work! Thank you for instilling in me a critical and inquiring mind, a passion for learning and knowledge, and modelling an approach to life that challenges the status quo and outside-the-box type thinking. Your support for every one of my endeavours has been unwavering, and now I treasure the continuation of these values you provide for my children as they make their way into the world. Your hard-working approach to life has enabled me to persist through significant challenges in pursuit of my goals and choose the road less travelled. That has made all the difference.

To the teachers involved in this study, and the school principals who took a leap of faith in agreeing to participate in the research process—thank you for believing in play as a powerful pedagogy for learning, and trusting me with your professional development in the process. It is always difficult

stepping against the tide, as classroom teachers and school leaders, and committing to a new or unknown pedagogical approach. Thank you for your courage, bravery, and commitment to the research process, as well as your continued support of the kaupapa long after your involvement with this study. I look forward to continuing to support and follow your journey in the coming years.

Thank you to my wonderful supervisors, Professor Tracy Riley and Dr Tara McLaughlin for your wisdom, patience, knowledge, challenge, and friendship throughout this EdD journey. This would simply not have been possible without your guidance, both academically and personally, as I journeyed my way as a new researcher. Thank you, Tara, for agreeing to meet with me even before I enrolled, to discuss and, from the outset, challenge me as I walked in with my prior coaching 'lens' firmly on. Your ability to respectfully turn my thinking on its head has enabled my growth in such profound ways. Tracy, your guidance and knowledge added an extra complementary layer to that of Tara's, in such a way that I felt I had a dream 'wrap-around' team supporting my research process. I enjoyed your pragmatic but encouraging critical feedback and the moments when you were able to recognise the need for more emotional and less cognitive care. A true embodiment of the genuine care provided by treasured supervisors. I hope that there will be continued opportunities to collaborate in future research endeavours because of this study.

It is with gratitude that I wish to acknowledge the Director of the Anita Zucker Center for Excellence in Early Childhood Studies at the University of Florida, Dr Patricia Snyder, and her consent in allowing me to use the practice-based coaching framework to inform the coaching processes applied to the framework of play for this study. I have developed a confidence and appreciation for the measures of quality coaching fidelity Dr Snyder's team have worked tirelessly to promote within the wider teacher professional development research and subsequent literature. It is my hope that the influence of Dr Patricia Snyder's work, and the subsequent work of Dr Tara McLaughlin here in New Zealand, will grow within the New Zealand professional development provider community, so that teachers in New Zealand have access to the most evidence-informed learning opportunities possible.

I would also like to acknowledge the funding I received from the Massey University Institute of Education Graduate Research Fund, which enabled me to fund an interviewer not associated with the study, and the transcription of teacher interviews as a result. Thank you, too, to Linda Clarke, for traveling from the Waikato to undertake the interviewing of all teachers involved in the study and giving up two days of her time to do this work on my behalf. It made the process so much easier trusting this data collection to someone with equal passion and enthusiasm for the kaupapa of the study, and with such a skill at interviewing teachers. Linda, your involvement did make this part of data collection just a little less stressful and I thank you for that.

To my Longworth Education colleagues, Stacey, Ann, Jill, Bevan and Kate, who have held down the fort as I disappeared into my writing, thank you for your support and dedication to the message we are working on for our primary school colleagues. I continue to feel so privileged being surrounded by such an inspirational, passionate, and highly skilled team of professionals dedicating their time to pioneering play pedagogy in our school sector. The teachers you support are so fortunate to have you alongside them, sharing your wisdom and expertise.

Now, to my extended family and friends, who have supported me by holding such a belief and trust in my ability to get this job done. My grandfather, Ron, my brother, Daniel, and sister-in-law, Tessa, my mother and father-in-law, Lesina and Michael, and my dear friends, Penny and Tineka,—your support in my research topic (whether you understood what I was sharing or not at the time) allowed me to offload outside of academia and for a moment feel there was life on the outside. Your cheer-leading talents did not go unnoticed and I deeply appreciate your support from the side-lines.

Dwain, my partner in this adventure of life, this journey has not been without some of the most difficult challenges we have faced together. At times, the journey has presented us with moments in which we have truly discovered more about ourselves as individuals, as well as life partners. But underneath it all, I thank you for always believing in me and knowing what my truth is. There have not been many years of our relationship in which I have not been studying and, I recognise at times, this can be a lonely place

for a partner to find themselves in. I am truly grateful for you stepping up to care for the kids when those moments arose to 'clear the house', as well as modifying your own work schedule in order to enable me to pursue both this research and my career in the process. I understand the cost this has had on you at times, and I cannot express how thankful I am that you continued to support me despite this. I am looking forward to new adventures ahead together, as we address those bucket-list items that have been waiting in the wings.

Finally, to my three children, Taurean, Mahala and Luke. You are my reason for this. You have taught me that learning is more than what school has looked like for decades. Your uniqueness, creativity, individuality and quirkiness are all strengths to be celebrated and nurtured, and because you have taught me this as your Mum, I am so inspired to hope that other children will have this realised about themselves as well. Taurean, I look forward to the day when that sewing machine hums and you believe in yourself with all that life has waiting ahead of you. Mahala, your knowing and mature wisdom are strengths and a wonder I am excited to see grow as you take on the world as a strong and independent young woman. Luke, the intricacies of your thinking continue to amaze me. You have spent half your life having a Mum with her head in books—I cannot wait to look up to reconnect with, and foster, your talents, passions and interests. All three of you have such a mountain of worth to offer this world—Dad and I look forward to seeing and supporting your influence in it in the years to come.

Family is not an important thing

It's everything

-Michael J Fox

Table of Contents

Abstract	iii
Acknowledgements.....	v
Table of Contents	ix
List of Appendices	xv
List of Figures.....	xvi
List of Tables	xvii
Chapter 1: Introduction	1
Thesis Background.....	1
The New Zealand Context.....	3
Researcher Background.....	5
Thesis Intent.....	6
Defining Key Terms	8
Play.....	8
Free play.....	8
Play-based learning	8
Learning through play	8
Teaching through play	9
Professional learning and development (PLD).....	9
In-service	9
Early years.....	9
Primary school	9
Junior classroom.....	9
Early childhood education (ECE)	10
Thesis Structure	10
Chapter Summary	11
Chapter 2: Literature Review	12
Introduction.....	12
Theoretical Influences: Teaching through Play.....	13
Key definitions: cognitive theory	13
Constructivism.....	14
Social constructivism	14
Lev Vygotsky	15

Jerome Bruner	16
Constructivist teaching in the primary classroom	17
Summary	19
Teaching through Play: The Adult Role	20
Approaches to teaching	20
Intentional teaching.....	21
Direct instruction: literacy and numeracy	23
Summary	24
Intentional Teaching Practices in Play-based Settings	24
The learning environment	25
Teacher behaviour: Teaching through play.....	26
Planning, assessment, and communication of progress	27
Summary	29
Barriers to Effective Teaching through Play	30
Teacher belief	30
Teacher pedagogical content knowledge.....	31
Teacher practice	32
Ongoing professional support, learning, and development	32
Teaching Through Play Summary	33
Teacher Professional Learning and Development (PLD)	34
Why Professional Learning and Development?.....	34
Components of Effective PLD.....	35
Core features of PLD	41
Supported by an external expert, trainer, or coach	43
Explicit content that integrates theory and practice.....	44
Multiple opportunities to actively learn and apply knowledge	45
Includes observation, coaching, or performance feedback.....	46
Use of student assessment data to inform practice and monitor impact on student outcomes	46
Structural features of PLD.....	48
Summary	50
Barriers to Implementing Effective PLD	50
Education policy.....	50

Time and cost	52
Expertise of PLD providers	52
Summary	53
Coaching of Teachers	53
Coaching terminology and definitions	54
Approaches to coaching	55
Measuring coaching fidelity.....	56
Summary	58
Coaching in New Zealand	58
A New Zealand example: Te Kotahitanga project.....	60
Practice-based Coaching	62
Practice-based coaching key ingredients.....	63
Practice-based coaching formats.....	64
Practice-based coaching in New Zealand.....	65
Summary	65
Chapter Summary	66
Chapter 3: Methodology	69
Research Aim and Questions	69
Research Design	69
Participant Recruitment	74
The Participants.....	75
The Setting	76
The Interventionist.....	77
The Workshop and Coaching Interventions.....	78
Workshop intervention	78
Coaching intervention	78
Welcome meeting	79
Session one.....	79
Sessions two–eight.....	80
Closing meeting	81
Fidelity of coaching	81
Coach training.....	82
Data Collection	82
Quantitative data collection.....	83

Construction of the P-BLOT	84
P-BLOT development and testing	85
P-BLOT research version	85
Use of the P-BLOT	86
Validity and reliability of quantitative data	87
Interobserver agreement for observational measures	87
Interobserver selection	87
Interobserver training	87
Qualitative data collection	88
Teacher questionnaire	89
Construction	89
Piloting the questionnaire	89
Research version	90
Implementation	90
Workshop evaluation	90
Semi-structured teacher interviews	91
The interviewer	92
Data Analysis	92
Research question one: Teaching through play beliefs	92
Research question two: Teaching through play practices	92
Research question three: Teacher involvement in the PLD intervention	93
Ethical Considerations	94
Informed consent	95
Privacy and confidentiality	96
Digital data management	97
Risk of harm	97
Justice	99
Special relationships	99
Treaty of Waitangi	100
Chapter Summary	101
Chapter 4: Results	103
Introduction	103
Research Question One: Teacher Beliefs and Practices of Teaching through Play	103
Teaching through play practices	104

Research Question Two: Impact of Professional Development, With and Without Coaching on Teacher Belief and Practices When Teaching Through Play.....	107
Teaching through play beliefs	107
Teaching through play practices	109
Interobserver agreement results	114
Research Question Three: Teachers' Perspectives about Participating in a Professional Development Program for Teaching Through Play Practices, With and Without Coaching.....	115
Workshop evaluations.....	116
Semi-structured interviews.....	117
Trust	117
Confidence in implementation	118
Timing and nature of supports	120
Improvement and progress for students	121
Change is challenging	121
Practical implementation.....	122
Well-being for teachers.....	123
Unpacking the drivers in coaching	123
Non-judgmental, collaborative, and supportive	123
Clear focus	124
Fidelity of Coaching	124
Chapter Summary	127
Chapter 5: Discussion.....	128
Introduction.....	128
Pre-Intervention Teacher Beliefs and Practices of Teaching through Play	129
Impact of PLD on Belief and Practices about Play-based Teaching and Learning	132
Core features of PLD	133
Supported by an external expert/trainer or coach	133
Explicit content that integrates theory and practice.....	136
Multiple opportunities to actively learn and apply knowledge to relevant contexts.....	137
Includes observation, coaching, or performance feedback	139
Uses student assessment data to inform practice and monitor impact on student outcomes	143
Structural features of PLD.....	143
Intensity, duration, and frequency of the PLD	144

Participation in a professional community of learners	145
Organisational supports	146
Play-based teaching and learning and PLD features	147
Summary	150
Chapter Summary	151
Chapter 6: Conclusion	153
Study Summary	153
Researcher Journey	158
Transitioning from practitioner to researcher	159
Knowledge and intellectual abilities	159
Personal effectiveness	160
Research governance and organisation	161
Engagement, influence, and impact	161
Future goals	162
Strengths, Delimitations, and Limitations of the Study	162
Delimitations	163
Strengths	163
Limitations	164
Implications for Practice and Policy	166
Practice	166
Policy	170
Implications for Further Research	171
Concluding Statement	173
References	175

List of Appendices

Appendix A: Practice-based Coaching Key Processes	208
Appendix B: Principals Information Sheet	210
Appendix C: Teacher Information Sheet	214
Appendix D: Teacher Consent Form	219
Appendix E: Summary of Workshop Content and Learning Outcomes	220
Appendix F: Coach Strengths and Needs Analysis Form	223
Appendix G: Continuum of Teacher Practice: Teaching through Play	224
Appendix H: Practice Implementation Checklists 1-4	225
Appendix I: Example of Action Plan	230
Appendix J: Example of Email Response Format	231
Appendix K: P-BLOT Observation Scoring Sheet	233
Appendix L: Interobserver Agreement Form	244
Appendix M: Research Version Teacher Questionnaire	252
Appendix N: Workshop Evaluation Example	273
Appendix O: Workshop Only Group Post-Intervention Interview Protocols	275
Appendix P: Coaching Group Post-Intervention Interview Protocols	278
Appendix Q: Massey University Human Ethics Research Office Ethics Approval Letter	283
Appendix R: Interview Transcript Release Authority	284
Appendix S: Second Observer and Interviewer Confidentiality Agreements	285
Appendix T: Transcriber Confidentiality Agreement	286
Appendix U: Vignette Summary of Workshop and Coaching Teacher Group PLD Experiences ...	287

List of Figures

Figure 2.1:	Practice-based coaching graphic.....	63
Figure 3.1:	Study design phases, timing, data collection and participant involvement	72
Figure 4.1:	Participant teaching through play practices pre-intervention	105
Figure 4.2:	Workshop only teacher group change in teaching practice over time.....	110
Figure 4.3:	Workshop and coaching (W&C) teachers 1 & 2 change in teaching practices over time	111
Figure 4.4:	Workshop and coaching (W&C) teachers 3 & 4 change in teaching practices over time.....	111
Figure 4.5:	Comparison of change scores workshop only with workshop and coaching professional Development	113
Figure 5.1:	Continuum of teaching approaches in the early years	131

List of Tables

Table 2.1:	Components of effective PLD across the literature	42
Table 3.1:	Research design phases, data sources, purpose, timing of collection and analysis ..	72
Table 3.2:	Coaching intervention sessions received by coaching group	79
Table 4.1:	P-BLOT individual teacher scores pre-intervention sections A-C and total score	106
Table 4.2:	P-BLOT section D: Number of counter-productive teaching practices evident	112
Table 4.3:	Number of interobserver focused observations and total focused observations completed across all intervention phases	114
Table 4.4:	Average percentage of interobserver agreement for focused observations of each section of the play-based learning tool (P-BLOT) across phases	115
Table 4.5:	Percentage of Participants Who Strongly Agreed by Workshop	116
Table 4.6:	Dose of practice-based coaching received by coaching group	125
Table 4.7:	Percentage of sessions in which coaching strategies were used during observation and debrief components	126

Chapter 1

Introduction

Thesis Background

Play, its attraction and its value as a human behaviour, is well-documented throughout history. Plato referred to children playing as “turning the eye of their souls to the Good and the True” (Hunnicut, 1990, p. 211), and suggested keeping children engaged in their study by utilising play as a tool to foster self-directed learning. Mark Twain stated “work consists of whatever a body is obliged to do. Play consists of whatever a body is not obliged to do” (Twain, 1948, p. 27), and G.K. Chesterton shared that “the true object of all human life is play” (Chesterton, 1908, p. 96.). Despite significant and ongoing research demonstrating the educative power of play (Cole-Hamilton, 2011), its use as a pedagogical tool appears to reduce in frequency as children transition to, and progress through, the primary school setting. Formalised instructional methods are viewed as a more superior pedagogical approach as children mature (Elkind, 2007; Robinson & Aronica, 2015). Discourse around what is viewed as valid learning and the delivery of academic information seen as necessary for workforce preparation have competed with the sociocultural theoretical perspectives underpinning play-based approaches, including the work of Vygotsky (1978), Bronfenbrenner (2005), and Bruner (1986). In recent times, play-based approaches to teaching and learning, commonplace in junior primary school classrooms in the 1970s and 1980s (Sherley, 2011, cited in Davis, 2018), have given way to increased pressure to focus on academic outcomes. The result is often the use of teaching practices and behaviours that are not supported by evidence of their impact on student learning (Davis, 2018; Thrupp, 2008).

However, shifting perspectives on what students need in a modern, technological workforce are now challenging the industrial education model, which predominantly focused on a knowledge-based, test-ready, delivery of information (Robinson & Aronica, 2015). Given this, play, and a recognition of its use as a pedagogical tool within primary classrooms, is experiencing a regeneration of interest within the mainstream education sector, both internationally and in New Zealand (Davis, 2018; Pyle & Danniels,

2017; Riley & Jones, 2010; Walsh et al., 2007). In addition, the New Zealand School Curriculum (NZC) (Ministry of Education, 2007) incorporates student-directed learning philosophies focused on creating life-long learners, conducive to developing both cognitive and socio-emotional competencies in New Zealand students. The vision and the principles of this national document align with the socio-cultural theoretical perspectives underpinning play-based approaches.

Given the complex pedagogical approaches adopted within the primary school sector, the use of play as a tool to deliver the vision and intent of the national curriculum remains a challenge for teachers. Competing priorities of the curriculum learning areas, the requirement to measure and report on progress of students, the physical school environment, and wider educational policies present challenges to teachers when identifying how play pedagogy may exist in the school context (Fesseha & Pyle, 2016; Lynch, 2015). In addition, research on play is primarily centred around early childhood, with limited information available to teachers on connections between play and learning in primary schools (Davis, 2018). The multi-faceted and complex nature of play contributes to multiple interpretations of how play can be applied as a teaching and learning tool in the classroom setting and, as a result, teachers often face varying limitations and barriers to effectively implementing play pedagogies with fidelity in their classrooms.

To address these challenges, teachers can engage in professional learning and development (PLD) to build new knowledge and skills, or add to a knowledge or skill base, when intent on incorporating play into their classroom practice. Effective PLD is identified as vital to improved student outcomes (Desimone, 2009; Guskey, 2002; Sawchuck, 2010), and high-quality PLD supports increased student achievement by improving the quality of teaching and teachers' knowledge and skills (Cohen & Hill, 2001). A growing body of emerging research focuses on identifying PLD associated with measurable changes in teacher practices and, as a result, associated student outcomes (Diamond, Justice, Siegler, & Snyder, 2013; Snyder et al., 2012). To date, a clear outcome of this research is the indication that the historical, popular model of one-shot workshop-style training has little impact on sustaining changes in

teacher practices over time (Darling-Hammond, Wei, Andree, Richardson & Orphanos, 2009; Joyce & Showers, 2002; Timperley, Wilson, Barrar, & Fung, 2007). Evidence indicates the need for PLD content to be explicit and include a component of job-embedded support ensuring implementation fidelity of the practices focused on in the PLD (Snyder, Hemmeter, & Fox, 2015). Job-embedded support, such as in-school coaching, ensures teachers have opportunities to use key practices from the PLD in their classroom context, and enables them to receive and reflect on performance feedback (Shannon, Snyder, & McLaughlin, 2015). Significant studies investigating the impact of coaching have demonstrated positive outcomes related to the enhancement of teachers' implementation of social-emotional teaching practices (e.g. Artman-Meeker & Hemmeter, 2012; Artman-Meeker, Hemmeter, & Snyder 2014); positive behaviour support (e.g. Conroy et al., 2014a; Conroy, Sutherland, Vo, Carr, & Ogston, 2014b); and literacy practices (e.g. Diamond & Powell, 2011; Hsieh, Hemmeter, McCollum, & Ostrosky, 2009).

Most recently, literature supporting the use of practice-based coaching challenges PLD researchers to move beyond the broad application of coaching and begin to define what forms, formats, and doses of coaching are consistently associated with the high levels of practice implementation desired by schools and providers when engaged in PLD (Shannon et al., 2015). Drawing on the need for an identified set of practices, practice-based coaching provides teachers with differentiated support focused on the implementation of research-based instructional practices (Knight, 2007). At the centre of the practice-based coaching process are actions or behaviours (practices) that are measurable and observable, with coaches supporting the fidelity of teachers' implementation of these teaching practices (Snyder et al., 2015). As a result, teachers are supported to move beyond what they know and believe about their teaching and address how they apply these beliefs and knowledge into what they do in their daily practice.

The New Zealand Context

In 2013 the Professional Development Advisory Group was established to identify strengths, weaknesses, and concerns related to the way in which teachers accessed and engaged in centrally

funded PLD in New Zealand (Professional Development & Advisory Group, 2014). Findings from the advisory group reiterated strong evidence of the connection between effective PLD and improved student outcomes, and recognised the need for PLD to “advance and support the intent of the national curriculum documents ... [that] provide directions for learning and guidance for effective pedagogy” (Professional Development & Advisory Group, 2014, p. 3). The advisory group emphasised sustainability as one of several important principles associated with a proposed new approach to PLD delivery. Concerns raised within the report highlighted a wide variation in the quality, effectiveness, and evidence base of PLD, and a need to align PLD initiatives with school processes and learning needs.

As a result of these findings, the current approach to centrally funded PLD was introduced in December 2016 (New Zealand Government, 2019a). Presently, schools seeking centrally funded PLD may apply for support to implement locally focused initiatives, identified as a priority to their school or combined community of schools in their area (i.e. Community of Learning/Kāhui Ako). This funding enables schools to tailor PLD to their own learning needs as part of their ongoing PLD inquiry process. Despite the significant literature identifying workshop-only style PLD to be ineffective in and of itself, New Zealand schools have historically invested in this mode as the primary and most popular format of PLD (Timperley et al., 2007). Where schools are unable to secure funding to access in-classroom support, schools may default to engaging in workshop or training-style PLD sessions. The use of coaching models to directly target teacher practice and consider ways to embed and sustain new practices is infrequent and inconsistent. Furthermore, the use of effective, practice-focused coaching models by trained PLD providers is limited in the New Zealand education context, typically occurring within the context of funded and targeted programme initiatives such as The Incredible Years (Ministry of Education, 2020; Webster-Stratton, 2012) and the Te Kotahitanga Project (Bishop & Berryman, 2010). The term ‘coaching’ is often used interchangeably with ‘mentoring’ to describe a wide variety of in-school teacher support approaches. As this study began, there was limited research available on the implementation science surrounding the variation of coaching and/or mentoring approaches used in the New Zealand school context.

However, at the time of writing this thesis, a significant programme of change has begun across the New Zealand education system (New Zealand Government, 2019b) as a result in a change of government and education policy direction. As part of a comprehensive review of the education sector, the way in which PLD was centrally funded and supported is under review and a draft document, National Education and Learning Priorities (NELP) (New Zealand Government, 2019b), has been released for public consultation. This discussion document sets out several objectives for New Zealand education, two of which are particularly relevant to the current study. These objectives, a requirement for “quality teaching and leadership” and “access to education that is relevant to the lives of New Zealanders today and throughout their lives” (New Zealand Government, 2019b, p. 7), state that a diverse, highly skilled, and motivated teaching workforce has a positive impact on the outcomes of students, and that quality leadership leads to positive changes in day-to-day learning. In addition, the NELP objectives acknowledge that children will be supported to “develop knowledge, skills and dispositions they need through teaching, learning and play to be confident engaged learners” (New Zealand Government, 2019b, p. 7). This thesis provides insight into how teachers can be supported to engage in evidence informed PLD opportunities that promote the balanced delivery of high quality teaching, learning, and play in New Zealand primary classrooms and, in doing so, achieve wide-ranging positive outcomes for children, which are identified within extensive play research and literature.

Researcher Background

Prior to undertaking this research and before my current role as a PLD provider, I was a Resource Teacher of Learning and Behaviour (RTLb), with over 15 years’ experience as both a classroom and itinerant teacher. During this time, I was regularly observing the discord between what teachers knew about how children learned successfully, and the pedagogical tools they were applying in their practice within the school setting. Teachers were espousing the benefits of play for children yet limiting the frequency of learning through play opportunities in their primary classrooms. In addition, as an RTLb, I had the opportunity to support teachers to reflect on their teaching practices, when faced with

students who had significant learning and/or behavioural needs. Often there were mismatches between students' developmental need and/or the learning expectations within the school setting. In addressing this, schools were frequently engaging in one-off workshop PLD, staff meetings, or teacher-only day style training sessions, to 'upskill' staff in pedagogy and curriculum delivery. However, there appeared to be little ongoing, post-workshop, support available to teachers to ensure fidelity around teacher implementation of the new learning undertaken. There were no providers of PLD in the area of teaching through play in the primary school sector and, while there was a growing interest in play pedagogy at this level, the understanding and implementation fidelity of play as a teaching and learning tool varied considerably. It was because of these observations, along with my desire to see more opportunities for learning through play in schools, that I left the RTLB service and began providing PLD support for teachers to implement play pedagogy with fidelity in their classrooms. In my professional role as a PLD provider, this study created the opportunity for me to explore more effective ways to (a) raise the frequency of play pedagogies within the primary school setting and (b) identify how teachers could engage in professional learning that led to embedded and sustained changes in their practice over longer periods of time. Because of the continued popularity of one-shot workshop style training for teachers in New Zealand, in the face of the evidence indicating its ineffectiveness (Timperley et al., 2007), I was particularly interested in undertaking research that explored how teachers could be supported to incorporate play pedagogies within their classrooms by engaging in PLD that moved beyond the popular workshop-style modes of delivery and supported implementation fidelity in the classroom setting.

Thesis Intent

The aim of this study is to identify teachers' beliefs, knowledge, and practices when implementing teaching through play in the primary school setting and investigate the impact of a PLD intervention on their subsequent implementation of play pedagogies. The study has three key objectives:

- to identify New Zealand primary school teachers' beliefs, knowledge, and practices, of play pedagogy prior to engaging in a PLD intervention

- to investigate the impact of a PLD intervention that includes or does not include coaching, on these beliefs, knowledge, and practices
and
- to identify teachers' perspectives on the impact of the PLD intervention on their beliefs, knowledge, and practices of teaching through play.

This research contributes to a growing body of existing research in New Zealand to identify what teachers know about, and how they apply, play as a pedagogical tool. It is also one of the first studies to examine how to support the implementation of evidence-based teaching through play practices with fidelity, by engaging in high-quality PLD provision in the New Zealand primary-school context. While there is significant evidence as to the benefits of play on early learning, there is less research available to teachers wishing to explore the use of play in the primary school years, both internationally and within New Zealand educational research. This research gap can lead to a lack of understanding of how teaching through play can be applied to the primary context, especially in the face of competing messages related to formal learning, measurements of success, and the purpose of school to prepare students for the workforce. For play to be effectively utilised as a teaching and learning tool, and for the positive student outcomes identified in wider play research to be realised, teachers require support to understand how to apply what is known about play to their everyday classroom practices.

Engaging in PLD that is focused on addressing the gap between what teachers know and can do, and providing teachers with a clear set of teaching practices associated with effective teaching through play, may support the implementation fidelity of play pedagogies within the primary school sector. This research will be of interest to researchers and teachers investigating the practical application of play in the school context. In addition, this research will be of interest to those who would like to consider how on-going PLD can be designed to move teachers beyond what they know and believe, and address what they do in their everyday classroom practice to deliver a national curriculum through play-based teaching and learning.

Defining Key Terms

The following definitions explain the major terms relevant to the research topic. More detailed explanations and additional terms are defined in Chapter Two.

Play. Play serves different functions in different settings, and various definitions exist. For the purpose of this study, Gray's (2013) definition of play has been adopted:

play is self-chosen and self-directed; process rather than product driven; contains structures or rules established by the players themselves; imaginative, non-literal and removed from reality; occurs between those who are active, alert and non-stressed (p.140).

Free play. The term free play is frequently used to describe play in which “children can do anything they want with any materials they want, without intervention from adults” (Weisberg, Kittredge, Hirsh-Pasek, Golinkoff, & Klahr, 2015, p. 9). For the purposes of this study, free play refers to play that is freely chosen, however, the freedom children may have is dependent on the situation or context in which they are enabled to play, with adults moderating the opportunities for this type of play to occur.

Play-based learning. Like play, various definitions of play-based learning are described in the literature. This study draws on Wood's (2004) definition of play-based learning as:

The ways in which ... professionals make provisions for play and playful approaches to learning and teaching, how they design play-based learning environments, and all the pedagogical decisions, techniques and strategies they use to support or enhance learning and teaching through play (p. 27).

Learning through play. Guss's (2005) description of learning through play as “playing instrumentally” (p. 233), with the adult facilitating and encouraging children's play while simultaneously aligning learning outcomes, defines the pedagogical use of play for the purpose of this study. In using the phrase learning through play, play is recognised as a medium for learning (Bergen, 1998) and a condition for which learning can occur (Fromberg, 2012).

Teaching through play. Alternatively referred to as adult-guided play, Weisberg, Hirsh-Pasek, and Golinkoff (2013) describe teaching through play as lying “midway between direct instruction and free play” (p.104). Teaching through play incorporates intentional teaching approaches within a child-directed play environment (Epstein, 2014) and has its foundation within constructivist theories of learning (Chi, 2009; Juvova, Chudy, Neumeister, Plischke, & Kvintova, 2015; Mayer, 2009).

Professional learning and development (PLD). The term professional learning and development (PLD) is used within the education community to describe the continued learning and types of on-going training opportunities teachers engage in post-completion of their pre-service teacher training (Darling-Hammond et al., 2009; Ministry of Education, 2015). Given the term *professional learning and development* (PLD) is most frequently used and understood within the New Zealand context, PLD will be used to encompass both PD and PLD research throughout this study. *Professional development* (PD) will be used when any studies referred to or described have specifically used this term.

In-service. In-service refers to the types of PLD opportunities engaged in by teachers who are working within a school setting and/or a classroom. Used to distinguish training opportunities from those of pre-service, in-service refers to PLD available to teachers after they join the workforce (Hamre, Partee, & Mulcahy, 2017).

Early years. The early years is a term used to recognise children between 3 and 8 years of age and is viewed as a significant period of development for children (Johnson, 2015).

Primary school. In this study, the term primary school is used in New Zealand to identify the school setting attended by children aged from school entry to 11 years of age (Ministry of Education, 2017a). The legal school entry age in New Zealand is 6 years old, however, it is common practice for most children to begin school at age 5.

Junior classroom. Junior classroom, in the context of this study, refers to classrooms of children aged between 5 and 8 years of age and in the classroom year levels of zero through to three, or composite classrooms including these year levels (i.e. years three and four).

Early childhood education (ECE). The term early childhood education (ECE) is used in New Zealand to identify the teaching and learning policies and practices associated with the delivery of the early childhood curriculum Te Whāriki (Ministry of Education, 2017b). ECE settings include centres such as day-care providers, in-home carers, and kindergartens. Children may attend these settings aged from birth to school entry, which is typically aged 5 years. While this study was not conducted within the ECE sector, key research and literature associated with play pedagogies within ECE is drawn upon and referred to where appropriate.

Thesis Structure

This thesis comprises six chapters. This chapter, Chapter One, has provided an overview of the context of the research, researcher background, aims of the study and purpose, key term definitions, and this outline of the thesis structure.

Chapter Two presents a critical review of the literature associated with play pedagogies and PLD, organised into two key sections related to teaching through play and PLD. Chapter Two explores key theories related to how children learn, the use of play as a pedagogical tool, the adult role in play, effective teaching through play practices, and teacher PLD that supports the implementation of play pedagogies. The literature review concludes with an evaluation of the current literature supporting play and PLD within the New Zealand education sector and outlines the research questions guiding the study design.

Chapter Three provides an overview of the methodological approach for this study. The use of a mixed methods research design is explained, and the methods used to gather and analyse data are outlined. The chapter concludes with an explanation of the ethical considerations related to the study.

Chapter Four reports the results of the study in relation to each of the research questions outlined in Chapter Two. First, Chapter Four reports findings from data collected related to teacher beliefs, knowledge, and practices prior to the implementation of the study intervention. Next, data gathered during and post-intervention is presented with a focus on the observed changes in teacher practice as a result of the study intervention. Finally, the teachers' perspectives of participating in the PLD programme are

outlined, with a summary of specific PLD components identified by the teachers as having contributed to the way in which they made changes to their practice as a result of the PLD.

Chapter Five discusses the results and synthesises these findings with the extant literature. The chapter is organised around the research questions that the study sought to answer.

Chapter Six concludes the thesis by reflecting on the delimitations, strengths, and limitations of the methodology adopted for this study, and how the study informed the researcher journey. Implications for practice, policy, and further research are included, along with concluding comments.

Chapter Summary

This chapter has highlighted the challenges teachers face should they wish to implement play pedagogies with fidelity into the primary school classroom. It has highlighted the need for New Zealand based research on the impact evidence based PLD interventions, that include coaching components, may have on the quality of teaching through play practices. Additionally, Chapter One has outlined the current New Zealand education context within which the research was undertaken, and the relevance this research may have in addressing the growing interest in teaching practices that have sociocultural theoretical underpinnings. Key terminology has been defined and the thesis structure outlined. In the next chapter, literature supporting the implementation of play pedagogies in the primary school education context, along with key research in the field of teacher PLD, are reviewed in detail.

Chapter 2

Literature Review

Introduction

The purpose of this review is to evaluate and critique the research related to: 1) the use of play as a teaching tool in school settings; and 2) professional learning and development (PLD) to support teachers' implementation of play as a pedagogical tool. In doing so, four key areas of literature require consideration. These are: theories related to how children learn, and the importance of play in this process; the adult role in play; intentional teaching through play practices; and teacher PLD supporting the implementation of play pedagogies. This review, focused on these four broad areas, is organised into two key sections: teaching through play and teacher PLD.

In the teaching through play section, literature associated with the use of play as a pedagogy is discussed and evaluated. Initially, the theoretical influences underpinning notions of play as a pedagogical tool are explored. Consideration is given to the influence theories have on the role of the adult in play, and the use of play as a pedagogical tool within educational settings. Next, effective teaching practices associated with play pedagogies are examined, including the role of the teacher in a play-based classroom. Barriers and challenges to the implementation of effective play pedagogies are then outlined.

The second section examines literature related to teacher PLD. Initially the need for PLD is reviewed and literature identifying structural and core components of effective PLD described. Measures of, and barriers to, implementing PLD with fidelity are examined. Next, the review identifies coaching as a specific approach to supporting the development of teachers' professional learning and practice. Approaches to coaching identified within the PLD research base are summarised before two studies of evidence-based coaching processes are described. Finally, the current literature supporting coaching models within the New Zealand education sector is reviewed.

The databases used to locate literature associated with teaching through play and teacher PLD included the ERIC, A+ Education, Discover, and Scopus online data bases. The Ministry of Education

database was used to search for relevant policy documents. The search terms used were play-based learning, learning through play, teaching through play, discovery learning, active learning, literacy and play, constructivism (including cognitive and social constructivism), teacher professional learning and development, coaching, mentoring, teacher learning support, and teachers' beliefs and practices. Paired with key descriptors including early years, school (primary and grade or elementary school), and teaching, the search was limited to studies within the last 20 years, except for some earlier studies that were deemed useful to the review. Seminal works by key authors were also included. The Massey University library was utilised in searches for books, including those on cognitive theory and play pedagogies. The literature included in this review, therefore, is a combination of empirical studies, theoretical books and articles, positional papers, and reviews of research focused on play pedagogy and teacher PLD. Much of the research base examining the use of play in educational settings is carried out within the early years sector. Therefore, the literature on play pedagogy situated within early childhood settings are included, where appropriate, in this review.

Theoretical Influences: Teaching through Play

The current study explores the implementation of effective teaching through play practices within a primary school setting, and how teachers can be supported to develop and sustain their knowledge and practices of effective play pedagogies. Given the literature in this area is considerable, this section of the review evaluates the theoretical influences of teaching practices, with those theories most relevant to play pedagogies critiqued. Beginning with a definition of key terms, the review focuses on constructivism as a theoretical foundation for how children learn and the importance of play in this process. Finally, key constructivist figures and the influence of their work on play pedagogies are outlined, before concluding with discussion on constructivist practices within the primary classroom.

Key definitions: cognitive theory. The field of cognitive science and research is a well-explored and investigated area of research and literature. As with teaching, cognition is described as a complex and multi-faceted concept (Flavell, Miller, & Miller, 2002). Cognition is viewed as “the processes

or faculties by which knowledge is acquired and manipulated. Cognition is usually thought of as being mental. That is, cognition is a reflection of the mind. It is not directly observable” (Bjorkland, 2012, p. 3). Lev Vygotsky (1978) and Jerome Bruner (1986) are prominent theorists within the field of cognitive science, with their work considered relevant to the cognitive processes of students associated with play pedagogies examined in this review.

Constructivism

Constructivism is a psychological theory in which learning is viewed as an interpretive, recursive, nonlinear building process by learners actively interacting with their physical and social surroundings (Doll, 1993; Fosnot & Perry, 2005). Constructivism posits teaching and learning as an active process, requiring learners to discover and construct knowledge by and for themselves and in collaboration with others around them (Fosnot & Perry, 2005; Schifter & Fosnot, 1993). Confrey (1990) provides a definition of constructivism in simple terms: constructivism is a “theory about the limits of human knowledge ... we construct our understanding through our experiences, and the character of our experience is influenced profoundly by our cognitive lenses” (p. 108). While there are numerous constructivist researchers, the work of social constructivist, Lev Vygotsky, and successive constructivists including Jerome Bruner, is cited frequently within literature supporting the use of play pedagogies (DeVries, Edmiaston, Zan, & Hildebrandt, 2002; Fosnot & Perry, 2005; Phillips, 1995; von Glasersfeld, 2005). A brief explanation of the social constructivist category of constructivism is provided below and is accompanied by an examination of Vygotsky and Bruner’s theoretical work and the implications of these theories in relation to the use of play pedagogies.

Social constructivism. Social constructivists are concerned with the interplay between cognition and the socio-cultural context in which learning occurs (Fosnot & Perry, 2005). They argue that humans are social beings and, as such, seek to establish communities, societies, forms of communication and adopt these as cultural mechanisms that support social goals and knowledge. The role of language and the community are viewed as important factors in shaping both individual and collective knowledge.

Social constructivists question psychological paradigms that place cognitive development as an entirely internal process and challenge a paradigm shift to consider the role the social and cultural environment play in human development (Cobb, 2005). While work in the social constructivist field is numerous and ongoing, two prominent figures, Lev Vygotsky and Jerome Bruner, are recognised widely as influential contributors to this field of constructivism.

Lev Vygotsky. Much of the contemporary literature examining children's play draws on the influential work of the Russian theorist and researcher, Lev Vygotsky (1896-1934). While his work was completed in the early 20th century, his writings were suppressed in Stalin's era, and as such, not published in English until the 1970s (Whitebread, 2012). Vygotsky believed learning to be developmental and constructive. However, it was the effect of social interaction, language, and culture on learning that became the focus of his work (Fosnot & Perry, 2005). Vygotsky placed strong emphasis on the influence of the environment in relation to intellectual development and how social interaction between adults and children contributed to this development (Broadhead & Burt, 2012).

Vygotsky provided key insights regarding the role of play and the way in which it contributes to children's development (Broadhead & Burt, 2012; Fosnot & Perry, 2005; Mooney, 2013). He proposed that children's language develops independently from thought (Vygotsky, 1962). Through social interaction, children develop the ability to both internalise their social or external speech, but also self-regulate their behaviour, thus creating the ability to make higher cognitive functioning possible (Vygotsky, 1986; Whitebread, 2012). Vygotsky argued that pretend, or make-believe play, provided children with the context to engage in the process of internalising external speech. For Vygotsky, play served as a medium for this transition from the "purely situational constraints of early childhood to the adult capability for abstract thought" (Whitebread, 2012, p. 16).

The zone of proximal development (ZPD) is a cornerstone concept of Vygotsky's work (Vygotsky, 1978). It provides an explanation for the way in which children engage in activities that support the internalisation of language and socio-cultural knowledge (Bodrova & Leong, 2007; Edwards, 2005; Eun,

2019; Fosnot & Perry, 2005; Whitebread, 2012). Vygotsky (1978) defined the ZPD as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 86). Through collaboration that occurs within the ZPD, children can be supported to progress to the next or closest (i.e. ‘potential’) developmental stage (Eun, 2019). Only information or concepts that reflect the very next developmental needs shared through social interaction within the ZPD can be internalised (Eun, 2019; Fosnot & Perry, 2005).

The principles and concepts of the ZPD are significant for those wishing to operationalise effective teaching in a play environment (Matusov & Hayes, 2000; Mooney, 2013). The role of the teacher in a play setting is to recognise and respond to the potential children have for learning within the context of their play and intentionally work within the ZPD to support this potential (Hakkarainen, Bredikyte, Jakkula, & Munter, 2013). Vygotsky argued that “the most effective learning occurs when the adult draws the child out to the jointly constructed ‘potential’ level of performance” (Bickmore-Brand & Gawne, 1993, p. 49). Vygotsky recognised the potential for learning, rather than drawing on achievement to define a child’s capabilities, and the role a more capable adult has in responding to that potential (Eun, 2019). The ZPD is indicative of the place a teacher has in supporting children’s ‘potential’.

Jerome Bruner. There have been diverse interpretations and applications of the ZPD within education and the wider literature. Given Vygotsky’s untimely death, followers of his theories have continued to interpret and attempt to operationalise his developmental concepts, the most notable of which was Jerome Bruner (1915–2016).

Bruner, with colleagues Wood and Ross (1976), expanded on Vygotsky’s notion of the support given by adults or peers within the ZPD, coining the term ‘scaffolding’. Commonly and inaccurately attributed to Vygotsky (Smagorinsky, 2018), scaffolding is a term used to describe the way children are assisted in their learning by breaking down concepts into manageable tasks and directing their attention towards the achievement of a goal (Wood, Bruner, & Ross, 1976). In their initial studies, Wood et al.

(1976) proposed the term 'instructional scaffolding' in the context of tightly controlled tutoring sessions for 30 3–5-year-old children, concluding that effective scaffolding involved six key teacher behaviours. These were: enlisting the child's interest and engagement; reducing or simplifying the task; maintaining direction by the student; noticing any discrepancies between the child's ability and performance in the task; reducing stress and frustration while maintaining appropriate levels of dependency on the tutor; and modeling solutions that the child may envision and imitate (Smagorinsky, 2018).

This initial scaffolding research has since been expanded upon to account for wider teacher–student interaction beyond tightly controlled instructional contexts, such as those investigated by Wood et al. (1976). In later work, Bruner suggests that it is the adult's 'loan of consciousness' that acts as the motivator and guide in moving a child through the ZPD (Bruner, 1986; Eun, 2019; Fosnot & Perry, 2005). That is, the child (or novice) borrows knowledge and skills from adults or more capable peers to engage successfully in tasks they would otherwise be unable to complete on their own.

Many successive researchers have since adopted similar terms to scaffolding, and described similar pedagogical practices (Siraj-Blatchford, 2009). Salomon (1993) describes similar interactions as 'distributed cognitions.' Rogoff, Mistry, Goncu and Mosier (1993) characterise similar behaviour as 'guided participation'; Alexander (2004) refers to 'dialogic teaching'; Wells (1999) 'dialogic inquiry'; Mercer (2000) 'interthinking' and, most recently, 'sustained shared thinking' has been used by Siraj-Blatchford, Sylva, Muttock, Gilden, and Bell (2002). All acknowledge the social-constructivist principle of social interaction as a condition of the learning process and explore the role of the adult, or more capable peer, in supporting the novice to access information otherwise inaccessible to them independent of this support. Thus, Vygotsky's theory, and Bruner's expansion of the ZPD, continue to be an avenue for research and exploration in current literature.

Constructivist teaching in the primary classroom. Constructivism is a theory of learning, rather than a theory of teaching (Biesta, 2011; Fosnot & Perry, 2005; Richardson, 2003). However, as outlined above, general principles of learning derived from constructivism have contributed to the way in

which teachers can think about and engage in constructivist-informed practices (Gordon, 2008; Singer & Moscovici, 2008; Terhart, 2003). The most significant of these principles, in the context of the present study, are facilitating opportunities for student discovery, inquiry, and autonomy, and teaching in a way that promotes active, meaningful learning experiences for students (Alfieri, Brooks, Aldrich, & Tenenbaum, 2010; Tiilikainen, Karjalainen, Toom, Lepola, & Husu, 2019).

However, several researchers argue that constructivist principles, while acknowledged in theory, are not applied with clear understanding in practice (Alfieri et al., 2010; Juvova et al., 2015). Also, criticism has been levelled at teacher education and professional development providers in not sufficiently supporting teachers to make connections between the theory (i.e. research-generated knowledge) and the practice of teaching (Allas, Leijen, & Toom, 2016; Korthagen, Loughran, & Russell, 2006; Tiilikainen et al., 2019). Mayer (2009) suggests that the call for student-directed and inquiry-oriented instructional strategies is a constructivist “teaching fallacy” (Tiilikainen et al., 2019, p. 53), illustrating a potential disconnect between ‘activity’ and constructivist learning. Active-learning as a process is mistakenly interpreted as behavioral, rather than a cognitive-based activity (Alfieri et al., 2010; Tiilikainen et al., 2019).

Chi (2009) outlines theoretical and behavioral differences between learning tasks that require the learner to be active, and tasks requiring the learner to engage in constructive thinking, arguing that the two approaches are not the same. In her positional paper, Chi proposes a framework comparing and contrasting active, constructive, and interactive learning types, citing characteristics of each. Of relevance to the current study is Chi’s distinction between engaging activities (active learning), self-construction activities (constructive learning), and guided-construction, sequential, or co-construction activities in instructional dialogue (interactive learning). Chi hypothesises that interactive activities are superior to constructive activities, which are better than active activities. As with Mayer’s (2009) position, Chi emphasises that constructivist teaching should support students to engage in higher-order cognition, rather than merely being kept ‘active’. A model of interactive learning challenges the traditional role of the

teacher by positioning the teacher in the role of a guide, tutor, or mentor while responding to child-centred learning foci (Alfieri et. al., 2010; Juvova et al., 2015). Understanding this model, and as such the role the teacher plays within this, in the context of teaching through play is relevant to this present study and discussed further in the Teaching through Play section of this review.

Summary. This section has provided an overview of the theoretical underpinnings associated with the use of play as a pedagogical tool to support children's cognitive and social development. Constructivist theory contributes to an understanding of how humans think and make sense of new information. The work of social constructivist theorists such as Vygotsky and Bruner provide consideration of the role adults have within children's play. As outlined, however, constructivism is not a theory of teaching, but of learning. Interpretation of constructivism from theory into practice is an ongoing area of investigation, with researchers engaged in debate as to what teaching methods and strategies most reflect the guiding principles of constructivist theory (Alfieri et al., 2010; Fosnot & Perry, 2005; Juvova et al., 2015; Mayer, 2009). This is relevant to the current study, given constructivists, such as Vygotsky, reference play as a powerful tool for cognitive development. If students are provided with the opportunity to learn through play within a school setting, effective teaching methods and strategies associated with constructivism must also be considered. Researchers, such as Chi (2009), Mayer (2009), Alfieri (et al., 2010), and Juvova (et al., 2015), suggest a simple interpretation of constructivism as 'active learning' is not enough in reflecting the principles of constructivist learning itself. Chi's framework distinguishes the importance of guided-construction and draws attention to an interactional model of learning and teaching. This model maintains the child-centered nature of learning, but draws on the importance of joint dialogue, scaffolding, and collaboration with a teacher as a means for promoting the principles of constructivist theory within the classroom setting. The next section will explore and expand on this discussion by outlining teaching practices associated with play pedagogies and the intentional role the teacher can adopt within a play environment.

Teaching through Play: The Adult Role

This section provides an examination of the literature on teaching practices, specifically those adopted to support constructivist principles of learning through play. It begins with a discussion focused on a continuum of varied teaching approaches and their relationship with play pedagogies. The remainder of the section examines intentional teaching methodology as a teaching practice reflective of constructivist theory and responsive to the requirements for curriculum. The section concludes with the discussion of several key practices associated with an intentional teaching methodology.

Approaches to teaching. With a considerable body of literature supporting the use of play as a pedagogical tool for learning, the way in which adults interact with students and teach through play is being increasingly explored. Both in research and in practice, diverse viewpoints regarding the teacher's role continue to emerge (Pyle & Danniels, 2017). At one end of a continuum, teaching through play is described as child guided. Defined as providing learning experiences that "proceed primarily along the lines of children's interests and actions" (Epstein, 2014, p.xii), and used interchangeably with terms such as child-initiated, child-directed and child-controlled, child-guided learning is most often associated with free play. Free play is viewed as experiences in which the child has full control of decision making, without intervention from adults (Cooper, 2014; Pyle & Danniels, 2017; Weisberg et al., 2013, 2015). Using this definition, free play is an activity that should not be interfered with by adults. The teacher's role is reduced to providing resources, to "support, not to disturb" (Pramling Samuelsson & Johansson, 2006, p. 48), and to avoid "hijacking" the play (Goouch, 2008, p. 95).

At the opposing end of this continuum, direct instruction is seen as providing little autonomy or opportunity for discovery, a key principle of constructivism (Doll, 1993; Fosnot & Perry, 2005). Direct instruction maintains a high level of adult-control, in which the teacher decides the goal of the learning task and tells the students what actions to take. Used interchangeably with the term adult-controlled, direct instruction sees the child as the passive recipient of the learning experience (Epstein, 2014).

Traditionally, direct instruction is seen as the provision of 'formal learning' experiences, most commonly focused on the teaching of literacy and numeracy skills (Walsh et al., 2007).

Drawing on Vygotsky's ZPD (Vygotsky, 1978) and Bruner's scaffolding theories (Wood et al., 1976), the concept of adult-guided learning places itself at the centre of this continuum. Adult-guided learning is defined as learning experience that "proceeds primarily along the lines of the teacher's goals, often guided by the expectations of the curriculum; although that experience may also be shaped by children's active engagement" (Epstein, 2014, p. xii). The term adult-initiated is used interchangeably with adult-guided learning and captures the interactive, constructivist nature of teaching and learning discussed earlier in Chi's (2009) framework. Teacher involvement in play is seen to support children's internalisation and exploration of academic, social, and emotional concepts while maintaining a child-centredness to the play interaction (Pyle & Bigelow, 2014; Weisberg et al., 2013; Weisberg, Zosh, et al., 2013). Teachers achieve this balance of teacher involvement and child-centredness by engaging in intentional teaching methods to support new learning that occurs as a result of a play interaction. Intentional teaching draws attention to the way in which teachers interact with students. Pianta (2003) defines this intentionality as "directed, designed interactions between children and teachers in which teachers purposefully challenge, scaffold, and extend children's skills" (p. 5). Epstein (2014) asserts the need for both child-guided and adult-guided learning experiences, with teachers aligning their practices to provide a balance of both approaches. This leads to the avoidance of either extremes of the play continuum such that interactions are neither overly teacher directed (i.e. didactic) or overly child directed (i.e. potentially laissez-faire).

Intentional teaching. A number of studies indicate primary-school teachers understand the value of play, but struggle with its implementation given the demands of a prescribed curriculum and an assessment driven, outcomes focused system (Blucher, Aspden, & Jackson, 2018; Fesseha & Pyle, 2016; Fung & Cheng, 2012; Martlew, Stephen, & Ellis, 2011). Direct instructional teaching approaches influence decisions primary school teachers make about the teaching strategies they use in their

classrooms (Nicholson, Bouer, & Woolley, 2016). Davis (2018) suggests that play within the primary setting remains a challenge to teachers who approach teaching and learning with predetermined outcomes or rely on strong teacher-led approaches. The use of didactic, teacher-led instruction with a focus on raising educational standards, particularly in literacy and numeracy, has dominated teaching approaches at the primary-level (Davis, 2018; Nicholson et al., 2016; Pyle & Danniels, 2017; Walsh et al., 2007; Whitebread, 2012). Play is viewed as a discrete classroom activity, rather than a pedagogical approach to learning (Murphy, 2006; Walsh, Sproule, McGuinness, & Trew, 2011).

Research is beginning to emerge regarding the intentional incorporation of both child- and adult-guided teaching approaches within the primary school sector (Blucher et al., 2018; Davis, 2018; Martlew, et al., 2011; Nicholson et al., 2016; Walsh et al., 2011). In a small-scale New Zealand practice-based study, Milne & McLaughlin (2018) observed teacher interactions with students in a new entrant classroom to identify the teacher's understanding and use of intentionality during play-based interactions with students. Milne and McLaughlin identify several examples of child-initiated and adult-guided learning opportunities within a play-based setting, illustrating ways in which teachers can incorporate intentional teaching methods that support learners to achieve their goals in play. Milne and McLaughlin's work highlights the need for teachers to have sound curriculum knowledge and a clear understanding of curriculum learning progressions. This knowledge assists teachers to intentionally identify and respond to the learning needs of their students and support students to make connections within and across the curriculum as they play. A further point, highlighted by Milne and McLaughlin's research, is that, in the context of learning through play practices, teachers have responsibilities to ensure children experience a broad and rich curriculum.

Drawing from a theoretical extension of ECE research on the benefits of play, current curricular policies across several countries refer to the use of child-centred learning practices in the enactment of early years curricula (Jay & Knaus, 2018; Pyle & Danniels, 2017). This includes Ontario (Ontario Ministry of Education, 2011), Western Australia (Australian Curriculum and Assessment Reporting Authority

(ACARA), 2010), Northern Ireland (McGuinness, Sproule, Walsh & Trew, 2009), Scotland (Scottish Executive, 2008), and New Zealand (Ministry of Education, 2007). Further knowledge about intentional teaching methods that achieve the incorporation of adult- and child-guided learning experiences across curriculum domains, would support teachers to embed effective teaching practices within primary-school play-based settings.

Direct instruction: literacy and numeracy. The inclusion of instructional teaching time (i.e. the formal teaching of literacy and numeracy) is an important consideration for primary teachers implementing a play-based learning approach. Tension continues to exist, within the primary school sector, between developmentally responsive approaches to learning and the expectations to introduce formal learning of literacy and numeracy to young children (Martlew et al., 2011; McGuinness, Sproule, Bojke, Trew, & Walsh, 2014; Whitebread, 2012). Primary school curriculum requirements include a focus on, and prioritisation of, the teaching of reading, writing, and mathematics (Gabriel & Allington, 2016; Lipson & Wixson, 2012). With the “push up” (Davis, 2018, p. 30) effect of play pedagogies occurring from ECE into the primary school setting, teachers are being challenged to consider the place of formal literacy and numeracy instruction within a play-based context. As such, the challenge of incorporating literacy and numeracy instruction into play-based programs is an important consideration within the current study.

Opposing arguments exist within the literature regarding the introduction of formal instruction, and the way in which students best learn literacy and numeracy knowledge and skills (i.e. Anthony & Walshaw, 2007; Chapman, Greaney, Arrow, & Tunmer, 2018; Clay, 1998; Smith & Elley, 1994; Copple & Bredekamp, 2008; Dee & Sievertsen, 2015; McGuinness et al., 2014; Tunmer, Greaney, & Prochnow, 2015; Walsh et al., 2007). Gabriel & Allington (2016) offer a centred position within this polarisation by summarising what is currently known about effective teaching of literacy, whether in a play-context or in a formal classroom model. Gabriel & Allington refer to several aspects of reading instruction consistently noted as key to effectively developing students’ reading skills, including the provision of explicit decoding instruction. They suggest that teacher knowledge and skill in literacy instruction, including an explicit

knowledge of how to teach reading effectively, is crucial to student progress, no matter whether the environment is play-based or more formal.

In a play-based primary classroom environment, Gabriel & Allington's (2016) work suggests the need for intentionality with regards to literacy and numeracy instruction, and the integration of opportunities for teacher-led differentiated group work in conjunction with an environment that supports child-led literacy and numeracy exploration. Epstein (2014) suggests this is indicative of the wider model of intentionality as a teaching tool, that is, the use of 'best practice'. Epstein defines best practice as requiring teachers to "think about what [they] are doing in the classroom and how it will foster children's development and produce real and lasting learning" (p. 12). Within a play-context, this will include the teacher drawing on evidence to support their understanding about the best practices associated with literacy and numeracy learning, including the careful and intentional incorporation of teacher-led instructional group work.

Summary. Intentional teaching is offered as a means by which teachers provide a balanced approach to achieve child-centred, adult-guided learning opportunities in the primary setting. Rather than adopting one end of a wide spectrum of practice, intentional teaching ensures teachers choose from a range of teaching strategies that best suit their students and the context in which they are learning, while also meeting the responsibilities to support children's learning across the curriculum. In the next section, the use of intentional teaching is expanded upon, with a focus on effective teaching practices when play based pedagogy is implemented in the primary school context.

Intentional Teaching Practices in Play-based Settings

In the following sections, intentional teaching will be discussed in relation to effective teaching practices associated with play pedagogies in the early years. These teaching practices include the decisions teachers make in structuring and managing the learning environment for play, teaching behaviours associated with effective interaction with students when engaged in play, and wider teaching practices including planning for, assessing, and communicating the progress of students. Practices

identified from the literature, and described in the following sections, were used as a basis for the identification of effective teaching through play practices for the PLD intervention in the present study.

The learning environment. There is a significant body of literature that points to the need for active, engaged, and constructive learning environments for students (Chi, 2009). Intentional teaching ensures the learning environment is established in ways that offer students opportunities to actively participate and engage (Weisberg, et al., 2013). In providing such an environment, teachers consider students' development, curriculum goals, teaching strategies, and characteristics of students' families and communities (Epstein, 2014), and establish a setting which promotes learning, including a pleasure and motivation to learn, for both students and teachers.

Key teaching decisions related to the organisation of these environmental elements can be considered in relation to three general areas. These include: the physical space available to students for their play (including the outdoors); resource provision and management (i.e. what students can play with); and scheduling the day to ensure the balance of adult- and child-guided learning experiences.

Teachers, in establishing an effective learning environment, will ensure that both students and teachers have the space to move freely, responding to learning opportunities as they arise within the play (Epstein, 2014; Walsh et al., 2007; Whitebread, 2012). Areas will be distinct, encouraging different types of activities (i.e. a family play, construction or water-play), noise and physical energy levels, and the learning environment will encourage students to interact in ways that allow groups of various sizes to play together (Sarama & Clements, 2009).

Resources provided for students to play with will be varied, and multi-purpose (Bodrova & Leong, 2003; Dillon, 2018; Gauntlett, 2011; Gauntlett, Ackermann, Whitebread, Wolbers, & Wekstrom, 2013; Nicholson, 1972; Resnick & Silverman, 2005). In selecting, introducing, and incorporating a variety of play resources into the learning environment, an intentional teacher decides the type, amount, frequency, and ease of access to these resources in a way that encourages children's in-depth exploration and independence within the learning environment (Epstein, 2014).

Enabling conditions for students to engage in play within the learning environment requires teachers to reflect on their timetable and the way the school day and activities are structured (Alfieri et al., 2010; Martlew et al., 2011; Myck-Wayne, 2010). Fisher (2002) refers to this as a negotiated classroom, highlighting the way in which a teacher schedules a balance of adult-guided and child-guided activities, and ensures, within the child-guided activities, students can move freely between tasks, interacting with peers and initiating new ideas. Sarama and Clements (2009) suggest teachers schedule long periods of time for play, thus giving opportunities for students to extend, build on, and develop their play ideas. Epstein (2014) suggests that an intentional teacher, when scheduling the classroom timetable, ensures a mix of learning opportunities within a “supportive framework of routine” (p. 15). This type of supportive framework is achieved when teachers establish consistent but flexible daily routines, reduce the frequency of transitions, provide a variety of types of activities, and allot appropriate time for activities reflective of the developmental levels of their students.

Teacher behaviour: Teaching through play. A consistent theme throughout the literature supporting intentional teaching practices in play-based settings, is the important role the teacher has in integrating teaching strategies that achieve a balance of adult-guided, child-centred learning experiences (Kennedy & Stonehouse, 2012). Being intentional with what, how, and why teachers teach in a play setting requires time and careful consideration (Leggett & Ford, 2013). Intentional teaching strategies include how teachers motivate and engage students in their play, and how they recognise and respond to students’ learning needs that arise when playing, such as by scaffolding to extend students’ knowledge and skills.

The ways in which teachers motivate and engage students to play will be planned and deliberate, reflecting the learning goals desired and their knowledge of their students’ interests and abilities (Kennedy & Stonehouse, 2012; Milne & McLaughlin, 2018). By creating adult-guided learning opportunities, such as the introduction of resources (i.e. books, media, visual material, play equipment), modeling new ideas and ways of thinking, and engaging with these resources in motivating and enthusiastic ways, teachers

can invite students to interact and play with the ideas associated with resources in ways they may not have previously considered (Booker & Batt, 2016; Dillon, 2018). Siraj-Blatchford & Sylva (2004), in their review of specific pedagogical strategies used by teachers that enable a successful start at school, distinguish adult-initiated but child extended play and child-initiated but adult-extended play. In planning to introduce resources, teachers are initiating play with the intention to encourage their students to interpret and extend on this further in their play.

While children are engaged in play, teachers will recognise learning opportunities that arise within the play context and draw from a range of strategies to respond to these opportunities further, with a focus on learning goals inherent (Epstein, 2014; Weisberg et al., 2013). Teachers will have an awareness of their students' learning goals, strengths, interests, abilities, and needs, and will purposefully challenge, scaffold, extend, or support new ideas or information within student play (Copp, 1961; Chi, 2009; Fisher, Hirsh-Pasek, Golinkoff, Singer & Berk, 2011; Vygotsky, 1978). Teaching strategies such as asking open-ended questions, using wait time, drawing attention to resources, using statements such as "I wonder", or prompting social skill or self-regulation strategies are all examples of the variety of ways intentional teachers respond to students' needs within the play context (Alfieri et al., 2010; Ashiabi, 2007; Epstein, 2014; Milne & McLaughlin, 2018; Walsh et al., 2007; Weisberg et al., 2015). Teachers engage in these interactions as authentic learning partners, which in turn supports students to be autonomous within the play (Weisberg et al., 2015). The combination of intentional teaching strategies that are flexible yet deliberate, contextually based, and responsive ensure the play remains child-centred, but with adult-guidance that is planful and intentional (McLaughlin & Cherrington, 2018).

Planning, assessment, and communication of progress. As discussed in the previous section, while children are engaged in play, teachers aim to meet their students' learning needs, interests, abilities, and skills by intentionally incorporating experiences that build on and respond to targeted and defined learning goals (Davis, 2018; Epstein, 2014; Kennedy & Stonehouse, 2012; Milne & McLaughlin, 2018; Wood, 2010). As a result, Epstein (2014), suggests teachers will be able to explain how they are

facilitating and supporting learning through play in relation to the wider national curriculum policies. The ways in which teachers do this include the use of assessment data to plan for individual and group needs and communicate progress to students and their families.

Assessment, when implemented and analysed appropriately, is useful in guiding teachers' decisions about the learning strengths and needs of their students, and ways in which further learning and progress can be supported (Epstein, 2014). In a play environment, teachers will use formative assessment approaches to inform ongoing pedagogical decisions and communicate learning progress with children and their families (Briggs & Hansen, 2012).

Formative assessment combines a variety of strategies to determine student understanding and allows teachers to identify areas for further support, or extension in their response (Greenstein, 2010). It assists teachers to identify and understand students' learning processes and their strengths and skills (Department of Education, Employment & Workplace Relations (DEEWR), 2009; Pollitt, Cohrssen, Church, & Wright, 2015). In the early years, and in environments that are play-based, the use of observation and teacher-student dialogue are recognised as effective formative assessment strategies useful in supporting student learning (Broadhead, 2006).

Narrative assessment, sometimes referred to as learning stories, draws on observation as the key method of data collection (Broadhead, 2006; Carr & Lee, 2012; Reisman, 2011), with its predominant use noted in the early childhood education (ECE) sector (Knauf, 2018). The Organisation for Economic Co-operation and Development (OECD) defines this form of assessment as "examples of work and feedback that tell the story of the child's development during a certain period of time" (OECD, 2015, p.176). Teachers engaged in narrative assessment gather observational data about student learning, including socio-emotional competencies and learning dispositions (Ministry of Education, 2009a). Often, this assessment method will include capturing dialogue either between teacher and student, or student and student in a format that is child-centred, non-standardised, holistic, and socioculturally embedded (Knauf, 2018). In addition, effective narrative assessment will identify opportunities and possibilities for

how the teacher may respond to the learning observed, including the provision of new resources, material, or information that extends or supports further learning (Copple & Bredekamp, 2008; Epstein, 2014).

While the use of narrative assessment is well documented within the early years literature, there are limited empirical studies focused on its use in the wider education sector. However, with the increase in play-based pedagogy extending beyond ECE, exploration of the use of learning stories, in conjunction with traditionally used summative assessment strategies, is growing. The emergence of practice-based literature demonstrates this early exploration and curiosity. Holloway (2018), in his research examining the use of play pedagogies with Year 11 English students, used learning stories to collect and recognise evidence of learning related to curriculum achievement standards. He notes that using this narrative assessment method forced him to “observe and describe the learning and capabilities of the students in a non-judgmental way” (p. 40). O’Neil (2018) shares examples of learning stories within the context of responding to her students’ writing within play and the reflections on practice she engaged in as she adopted play pedagogies within her primary-based classroom. These are early examples, indicative of a growing awareness of the use of appropriate assessment strategies to incorporate within a play setting. Assessment methods such as learning stories may assist teachers to notice the learning occurring in play, respond to this learning in a way that is intentional and playful, and to communicate the progress of this learning to students and their families.

Summary. This section has explored research and literature associated with teaching practices in a play-based learning environment. The growing body of literature exploring teaching through play is indicative of an awareness that, while play as a tool for children’s learning is valuable, there exists a need to define and clearly identify intentional teaching practices that support the positive outcomes possible for children engaged in play pedagogies.

Within the primary school sector, play is commonly viewed as a discrete activity, rather than a pedagogical approach to learning (Murphy, 2006; Walsh et al., 2011). Teachers adopting play

pedagogies are challenged to marry child-guided learning experiences alongside the requirements of a prescribed curriculum and assessment expectations in the school system (Davis, 2018; Fesseha & Pyle, 2016; Fung & Cheng, 2012). Intentional teaching is offered as an approach to mediate teacher-led instructional approaches, such as the teaching of literacy and numeracy, with child-guided play approaches within the primary classroom (Davis, 2018; Epstein, 2014; Gabriel & Allington, 2016; Milne & McLaughlin, 2018).

Key intentional teaching strategies in a play-based setting include the decisions teachers make in relation to the learning environment, the teaching behaviours associated with effective interaction with students when engaged in play, and wider teaching practices such as planning for, assessing, and communicating learning progression. The teaching practices identified in each of these sections demonstrate the complexity of strategies required by teachers to intentionally and successfully implement play pedagogies within the primary school learning environment (Epstein, 2014; Kennedy & Stonehouse, 2012; Shing, Saat, & Loke, 2015).

Barriers to Effective Teaching through Play

Given the complexities discussed above, there are several barriers and challenges identified within the literature that impede the successful implementation of teaching through play. For the purpose of this review, they can be identified in terms of: what teachers believe about play and its educative power (Gray, 2013); teachers' pedagogical content knowledge; and the way in which teachers apply their beliefs and knowledge to their teaching practices.

Teacher belief. The child-centred approach of play-based learning challenges the traditional view of education and curriculum which, in the main, has sought to disseminate information in a didactic, top-down model of practice (Armstrong, 2006; Gray, 2013; Murphy, 2006; Robinson & Aronica, 2015). For teachers accustomed to planning for predetermined outcomes, or for teachers who adopt teacher-led, direct instructional approaches, implementing play-based learning presents many pedagogical challenges (Davis, 2018; Riley & Jones, 2010). In a study of child-centred practices within Irish new-

entrant classrooms, Murphy (2006) outlines the results of a nationwide questionnaire which sought to examine the views, attitudes, and methodological practices of teachers mandated by national curriculum policy to implement classroom play-pedagogies. Murphy's findings highlight clear differences between teachers' assumptions and understandings about play and child-centeredness and the practices expected of them from the national Irish curriculum. He concludes that "teachers' instructional practices appear to be influenced by their deeply ingrained personal beliefs and understandings rather than by the principles of the curriculum" (p. 123). Davis (2018) suggests that teachers need to "rethink their identity as teachers" (p. 31) in order to adopt effective play pedagogies. The belief that play is a less superior way to learn as children mature and enter the school setting impacts on the way in which play pedagogies are used to effectively support student learning and development. Murphy suggests, as a result, play is offered as a discrete classroom activity, rather than a pedagogical approach.

Teacher pedagogical content knowledge. Pedagogical content knowledge (PCK) is defined as the "integration or amalgamation of pedagogy and subject content knowledge" (Shing et al., 2015, p. 40). Emerging research in the use of play within the primary context highlights the importance of teacher PCK in combination with intentional teaching methods to support the learning goals of students when engaged in play (Blucher et al., 2018; Martlew et al., 2011; Walsh et al., 2011).

Milne and McLaughlin's (2018) New Zealand based study, discussed earlier, highlights the intentional connection the teacher makes between the New Zealand Curriculum (NZC) (Ministry of Education, 2007) and the students' learning goals while engaged in play. The authors propose that a deep awareness of the content of the NZC, including both learning areas and key competencies, is important in order to extend and enrich students' learning outcomes when engaged in play. A key contributor to this is the teacher's awareness of student learning goals, in addition to their strengths and interests. Milne and McLaughlin suggest teachers need support to further develop their subject knowledge of the NZC and knowledge of how to teach within the context of play, and in relation to students' learning needs and abilities.

Teacher practice. What teachers know about how to teach can often contrast with their teaching practices. In their study of nine classroom teachers, Bennett, Wood, and Rogers (1997) investigated the relationship between teachers' theories of play (i.e. their knowledge) and their classroom practices, examining the impact on mediating or constraining factors on this relationship. Bennet et al. identified that most teachers held strong views on the interrelated connection between play and learning, and the importance of promoting children's interests, choice, ownership, and autonomy in fostering intrinsic motivation, engagement, and concentration. However, in practice, over half the teachers in the study implemented play practices in which there was a high degree of teacher-structure and lack of child-autonomy. This study highlighted the difficulty teachers have in identifying and creating the conditions for teaching through play, and conceptualising their role within children's play. Bennett et al. suggest the need for practical and theoretical support to improve the quality of teaching and learning through play.

In recognition of the difficulty teachers have in conceptualising their role within a play-based classroom, descriptions of effective teaching through play practices are emerging by advocates of play pedagogy (i.e. Broadhead & Burt, 2012; Walker, 2007). However, there is limited research that provides an explicit definition of these practices. Furthermore, there is a lack of evidence that identifies the extent (i.e. quality and frequency) to which teachers apply these practices with fidelity in the classroom, and the impact of these practices in establishing an effective play-based learning environment. Establishing effective measures that identify the extent to which a teacher engages in practices that reflect evidence-based teaching in a play environment will go some way in addressing the gap between what a teacher *knows* about play pedagogies and what a teacher *does* in their teaching practice.

Ongoing professional support, learning, and development. This review, thus far, has identified the complexity of effective teaching practices associated with play as a pedagogical approach to students' learning needs in educational settings. It is this complexity of understanding and knowledge that researchers suggest contributes to the wide-ranging play pedagogies adopted by teachers and the variation in outcomes associated with play environments (Davis, 2018; Pyle & Danniels, 2017). In studies

undertaken in Ireland (Murphy, 2006; Walsh et al., 2011), Scotland, (Martlew et al., 2011), Ontario (Pyle & Danniels, 2017), and New Zealand (Milne & McLaughlin, 2018), the authors identify the need for increased training and professional support, learning, and development for teachers engaged in the implementation of play pedagogies. Improving the quality of teaching through play is unlikely to occur without appropriate PLD focused on increasing teacher knowledge and fidelity of practice (Bennett, Wood, & Rogers, 1997; Pyle & Danniels, 2017).

Teaching Through Play Summary

This section of the review has examined the extensive literature on teaching through play and the complex role the adult has in supporting learning through play in the school context. Extending on the constructivist theoretical base is the notion of intentional teaching; teaching that supports the planned and thoughtful incorporation of a balance of adult- and child-guided learning experiences for students in a play setting (Epstein, 2014; Milne & McLaughlin, 2018; Weisberg et al., 2015). Intentional teaching integrates teaching strategies that avoid extremes of the play continuum, by challenging teachers to deliberately plan for and respond to learning in play, while maintaining a learning environment that has a high degree of student choice and autonomy (Epstein, 2014; McLaughlin & Cherrington, 2018; Pianta, 2003). However, the implementation of intentional teaching in a primary-school classroom is not without its challenges. Shifting from predominantly teacher-led instructional practices to incorporating more child-guided learning experiences challenges teachers to examine their own beliefs and knowledge about play, constructivism, and child-centeredness (Murphy, 2006). Furthermore, applying these belief structures and knowledge to their daily classroom practice, often in the context of constraining factors such as the physical environment or policy requirements, adds an additional layer of challenges for teachers (Bennett et al., 1997). In addressing these challenges and the wider complexity of implementing play pedagogy itself, the literature is clear: Teachers require ongoing practical and theoretical support, in the form of professional learning and development, if the desired outcomes of teaching and learning through play

are to be achieved. In the following sections of this review, the importance of teacher PLD, specifically in relation to developing quality play pedagogy, is outlined and discussed in significant detail.

Teacher Professional Learning and Development (PLD)

Teaching through play in the primary classroom combines a complexity of practice and knowledge by teachers that challenges traditional pedagogical discourse. Teachers are required to develop considerable knowledge and skills in establishing the learning environment, implementing curriculum, integrating and applying teaching strategies and planning, and assessing and communicating learning in ways that, for many, are significantly different to how they have been trained to teach. This section will examine the ways in which teachers engage with PLD to build upon their knowledge and skill base, as well as the literature surrounding the efficacy of PLD approaches. Firstly, consideration is given to why PLD is needed within the education sector. A specific examination of the components of effective PLD is undertaken, and consideration is given to the barriers that impact on the implementation of effective PLD. The section then turns to consider coaching of teachers, a growing area of research within the PLD field. Approaches to coaching are discussed with both New Zealand and international models examined. Finally, consideration is given to the need for further research on coaching PLD within the New Zealand context.

Why Professional Learning and Development?

Teacher PLD is viewed as a way for teachers to continue to develop new knowledge and skills or add to a knowledge and skill base in the face of a rapidly, continually, and technologically changing world (Alibakhshi & Dehvari, 2015; Bailey, Curtis, & Nunan, 2001). Darling-Hammond et al. (2009) suggest “well-designed professional learning helps teachers master content, hone teaching skills, evaluate their own and their students’ performance, and address changes needed in teaching and learning” (p. 7).

In engaging with PLD, teachers are continuing the cycle of learning that begins with initial pre-service training and lasts for the entirety of their teaching careers. In-service PLD exists specifically for

teachers who have completed their training and are seeking to build their knowledge within the context of their practice, by assisting them to implement the best pedagogical approaches in response to student learning needs (Mizell, 2010), and to build on their knowledge with the most recent resources and methodologies identified by research in the education field (Richards & Farrell, 2005). In-service PLD is identified as essential for educators to become both proficient and sustainable in their teaching knowledge and skills (Donovan, Bransford, & Pellegrino, 1999; Guskey, 2002, 2014).

PLD is a complex process, requiring both cognitive and emotional engagement and the ability by teachers to transform new knowledge gained into everyday classroom practices (Burbank & Kauchak, 2003; Reis-Jorge, 2007; Romano, 2006; Sandholtz, 2002). PLD relies on a two-part transfer of knowledge. Part one is the internalisation of new knowledge and skills, resulting in a change in teaching methods, behaviours or approaches, and part two is subsequent improved student outcomes (Desimone, 2009; Guskey, 2002; Sawchuk, 2010). Societal expectations require teachers to be focused on providing positive student outcomes and, as such, teachers engage in PLD to find ways to improve students' achievement (Mushayikwa & Lubben, 2009), acquire new skills, and add to their knowledge (Bailey et al., 2001). Guskey (1995, 2003, 2014) identified an increased recognition of the importance of PLD for the teaching profession, indicating that PLD is the "primary vehicle in efforts to bring about needed change" (1995, p. 1). Effective PLD is identified as vital to school success and teacher satisfaction (Krasnoff, 2014). High-quality PLD is identified as the most cost-effective tool to increase student achievement, by improving the quality of teachers and their knowledge and skills in the classroom (Cohen & Hill, 2001).

Components of Effective PLD

With increased understanding of the impact of effective teaching on student outcomes, increasing research has focused on the types of PLD that teachers need in order to be effective in their teaching practices. Dunst, Bruder and Hamby (2015) suggest well-designed in-service PLD opportunities for teachers are relatively rare, with the predominant type of PLD, historically, being attendance at one-

time workshops, conferences, or off-site training sessions. There is limited evidence to suggest that participation in workshop-only PLD models contributes to embedded and sustained changes in teachers' pedagogical practices, despite their widescale use (Dunst, Bruder, & Hamby, 2015; Wasik, Matterna, Lloyd, & Boller, 2013; Zaslow et al., 2010). Research is identifying the need to shifting away from the most prevalent historical approach of "sit and git topic du jour" PLD (Krasnoff, 2014, p. 11), to identify components of effective PLD in which positive student outcomes are a result of change in teacher practices (Timperley et al., 2007).

Determining the components of effective and high-quality PLD is a growing area of research within the education sector. Recent research, focused on changing teaching practice to foster positive student outcomes, suggests effective PLD requires both core and structural components associated with changes and improvements in educator and student outcomes (Timperley et al., 2007). Structural features, in general, refer to the systemic support teachers have that enables them to engage freely in the PLD without facing barriers to access or ongoing interaction. Core features refer to characteristics described by professional development specialists as critical for PLD to be effective (Bransford et al., 2000; Darling-Hammond et al., 2009; Desimone, 2009; Dunst et al., 2015; Guskey, 2002; Timperley et al., 2007). Table 2.1 provides a summary of the structural and core features identified in six key PLD studies, selected from the wider PLD research. Each study is described before the table is presented. The studies included were selected as they met at least one or more of the following criteria:

- 1.) The research was, or included, New Zealand based PLD (i.e., Bishop & Berryman, 2010; Timperley et al., 2007)
- 2.) The research was a metasynthesis of in-service PLD studies or a review of the wider literature of in-service PLD (i.e., Dunst et al., 2015; Hamre et al., 2017; Snyder et al., 2012; Timperley et al., 2007)

- 3.) Effectiveness of PLD was examined within the context of play-based curricula (i.e. Reinke, Stormont, Webster-Stratton, Newcomer, & Herman, 2012; Weiland, McCormick, Mattera, Maier, & Morris, 2018)
- 4.) The research was early years (3–7 years) based (i.e., Hamre et al., 2017; Reinke et al., 2012; Snyder et al., 2012; Weiland et al., 2018).

The early years sector was included in these criteria because early years research was identified as relevant to the review of the literature, due to the pedagogical use of play in early childhood. Conversely, PLD research in the primary school sector is often less relevant due to a focus on improvement in single-subject teacher practices (such as literacy or mathematics), rather than play pedagogies.

Snyder et al. (2012) provided a descriptive systematic review of 256 early childhood studies that met several inclusion criterion, including the reporting of empirical evidence about PD outcomes for either practitioners or children. Seventy-four percent of the studies reviewed by Snyder et al. described systematic follow up of the PD teachers were engaged in, yet, there was limited information regarding the dose and fidelity of the follow-ups provided. Providing a description of the who, what, and how of early childhood PD, the authors draw attention to the need to reach agreement regarding which key components of PD interventions are reported on. This enables a consistent interpretation of intervention effectiveness, improved teaching practice, and positive student outcomes.

Bishop and Berryman's Te Kotahitanga Project (2010) was a large-scale New Zealand based research and development project focused on improving the educational achievement of indigenous Māori students within the mainstream secondary school sector. Incorporating 33 secondary schools, over seven years, the project implemented a four-phase approach to providing PLD to secondary school teachers with the use of the Effective Teacher Profile (ETP). The construction of the ETP, drawing from a kaupapa Māori research approach, assisted teachers to identify the underlying teacher and school behaviours and practices that had a positive impact on Māori student outcomes and experiences at school. A more comprehensive discussion of this project is provided later in this review.

Timperley et al. (2007) included 97 studies in their Best Evidence Synthesis Iteration (BES), commissioned by the Ministry of Education in New Zealand. Twenty-four of these studies were New Zealand based. BES draws on a wide range of New Zealand and international research evidence to identify effective practices and the way in which these practices impact on education outcomes. Timperley et al. (2007) applied a theoretical framework to the analysis of PLD studies located in their literature search. This framework comprised 84 different characteristics of professional learning environments that impacted on student outcomes, including the social context teachers work within (i.e. wider policy and school environment) and the professional learning context. The 97 individual studies and groups of studies included in this BES met the identified methodological criteria for Timperley et al.'s analysis as they had substantive student outcomes associated with teacher PLD. These studies were identified as the core studies for the BES, as they included personal, social, and academic student outcome attributes. Furthermore, a number of supplementary studies were also identified and used to complement the core studies included in this synthesis. These studies were identified as meeting the methodological criteria for analysis, but reporting limited or no change in student outcomes; or had significant student outcomes but did not provide specific detail with which outcomes and teacher professional learning could be correlated. In a summary of their findings, Timperley et al. identified seven elements in the professional learning context as important for promoting professional learning that, in turn, impact positively and substantively on student outcomes. These elements included: providing extended time to engage in new learning and using this time effectively; the use of external expertise; teacher engagement; PLD that challenges prevailing discourses; participating in a professional learning community; PLD that aligns with wider educational trends; and effective school leadership. A further four components related to the content of PLD were identified as central to the effectiveness of PLD by the authors. These components included: the way in which content was integrated effectively with other kinds of knowledge and educational theory, and the translation of this into every day practice; a focus on the inherent link between teaching and learning and the student-teacher relationship; the effective use of

assessment to focus on teaching; and the sustainability of continued or improved student outcomes as the PLD supports were withdrawn.

In a metasynthesis review of 550 studies, Dunst et al. (2015) sought to identify core features of PD associated with change or improvement in teacher and student outcomes. Dunst et al. reviewed research syntheses of in-service PD, systemically analysing the types of PD engaged in by teachers, to identify if the core features were related to positive teacher and student outcomes, and describing 15 research syntheses in detail. Drawing on professional development design frameworks proposed by Desimone (2009) and Guskey (2002), Dunst et al. acknowledged the expectation that improvement in teacher knowledge, skills, and practices can, in turn, be related to improved student outcomes. Similar characteristics to those identified by Timperley et al. (2007) as core to effective teacher PLD are identified by Dunst and colleagues.

Hamre et al. (2017), in their article *Enhancing the Impact of Professional Development in the Context of Preschool Expansion*, discuss recent research on effective training and support methods for preschool teachers, making connections between this research and the way in which it informs classroom practice. While focused on preschool (early years settings in the United States serving 3- and 4-year olds), the authors draw on broader early childhood education (ECE) and primary level education research identifying the use of specific, focused, and clearly articulated evidence-based teaching practices as the most central element of effective PD. Hamre et al. outline a link between effective policies, effective ECE programmes, and effective professional development. They note that, while it may seem obvious that PD should be evidence-based and should focus on the use of evidence-based teaching practices, the limited data available suggests that much PD offered to teachers is not evidence-based. Hamre et al. identify characteristics of effective PD, again reiterating many of the same key attributes identified by Timperley et al. (2007) and Dunst et al. (2015).

While not a metasynthesis of PLD literature, the cross-study review conducted by Weiland et al. (2018) was included in Table 2.1 due to its focus on identifying common elements of effective PLD within

a play-based context. The PLD reviewed in the Weiland et al. study was a component of a wider model of preschool curricula, called the 'Strongest Hope' (Yoshikawa et al., 2013; Yoshikawa, Weiland, & Brooks-Gunn, 2016), which aimed to improve the instructional quality in large-scale public preschools. The Strongest Hope model combined curricula intentionally focused on specific domains, such as literacy, numeracy, and social-emotional development, within play-based activities. Weiland et al.'s cross-study comparative synthesis of five diverse large scale evaluations (n= 6,500 children and n= 750 teachers) occurred across 19 localities throughout the United States. The aim of the synthesis was to identify actionable common elements of successful large scale implementation of the Strongest Hope model, assisting replication of the model and, in turn, increasing successful outcomes for students. The incorporation of intensive professional development is one of the three identified components of the Strongest Hope model. Play-based curricula that is domain-specific and monitoring of child-progress are the additional two components of the model. Specific curriculum-focused teacher training and coaching methods are detailed within the cross-study review and highlight similarities with other literature summarised in Table 2.1. These similarities include the need for teachers to have a knowledge of, and put into place regularly, effective, evidence-based practices that successfully support children's learning.

Finally, Reinke et al. (2012) describe the way in which teachers are supported through the use of coaching PLD to implement the Incredible Years Teacher Classroom Management (IY TCM) programme and generalise this into their teaching practices. The IY TCM programme is part of the Incredible Years series (Webster-Stratton, 2012), and has been evaluated by the developer, Carolyn Webster-Stratton, in three randomised control trials, and by six independent investigators. Aimed at teachers of children aged 3–8, this literature was included in the Table 2.1 as it is situated in the early years sector and identifies data outlining the replicated implementation and evaluation of the IY TCM workshop and coaching model of PLD. Furthermore, it extends on the assertion within the wider PLD literature that teachers require ongoing support to implement evidence based social-emotional and behavioral practices. Again, the identification of key components, including the use of an external expert,

frequent support, and focused content, supports similar effective PLD components identified in wider literature.

Core features of PLD. The following section outlines the core features identified in the studies included in Table 2.1. The studies listed in this table were analysed with the purpose of identifying core and structural PLD features consistent across the research. Initially this analysis consisted of identifying consistent features of PLD identified within the metasyntheses or large-scale literature reviews (i.e. Dunst et al., 2015; Hamre et al., 2017; Snyder et al., 2012; Timperley et al., 2007). In these studies, key components and features of effective PLD were succinctly identified and discussed consistently across the literature. A subsequent review of the smaller or subject-specific studies (i.e., Bishop & Berryman, 2010; Reinke et al., 2012) was then undertaken to determine the presence or absence of these features. Once identified within the studies listed in Table 2.1, the features were categorised into structural components of PLD and components focused on teacher behaviour and practice changes (i.e. core components). This delineation reflected similar categorisation of key PLD features within the larger studies (i.e., Dunst et al., 2015; Timperley et al., 2007; Weiland et al., 2018).

Table 2.1

Components of Effective PLD Across the Literature

Key PLD Components	Snyder et al., (2012) ¹	Bishop & Berryman, (2010) ²	Timperley et al., (2007) ³	Dunst et al., (2015) ⁴	Reinke et al., (2012) ⁵	Hamre et al., (2017) ⁶	Weiland et al., (2018) ⁷
Core Features							
Supported by an external expert/trainer or coach	X	X	X	X	X	X	X
Explicit content that integrates theory and practice	X	X	X	X	X	X	X
Multiple opportunities to actively learn and apply knowledge to relevant contexts	X	X	X	X	X	X	X
Includes observation, coaching, or performance feedback	X	X	X	X	X	X	X
Use of student assessment data to inform practice and monitor impact on student outcomes		X	X			X	X
Structural Features							
Intensity, duration and frequency of PLD matched to desired outcome	X	X	X	X	X	X	X
Participation in a professional community of learners		X	X	X	X	X	X
Organisational supports e.g. active and visionary leader		X	X			X	X

Table Note. ¹Snyder, P., Hemmeter, M.L., Artman-Meeker, K., Kinder, K., Pasia, C., & McLaughlin, T. (2012). Characterizing key features of the early childhood professional development literature. *Infants & Young Children*, 25(3), 188-212. ²Bishop, R., & Berryman, M. (2010). Te Kotahitanga: culturally responsive professional development for teachers. *Teacher Development*, 14(2), 173-187. ³Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration (BES)*. Wellington, New Zealand: Ministry of Education. ⁴Dunst, C.J., Bruder, M.B., & Hamby, D.W. (2015). Metasynthesis of in-service professional development research: Features associated with positive educator and student outcomes. *Educational Research and Reviews*, 10(12), 1731-1744. ⁵Reinke, W.M., Stormont, M., Webster-Stratton, C., Newcomer, L.L., & Herman, K.C. (2012). The incredible years teacher classroom management program: Using coaching to support generalisation to real-world classroom settings. *Psychology in the Schools*, 49(5), 416-428. ⁶Hamre, B.K., Pardee, A., & Mulcahy, C. (2017). Enhancing the impact of professional development in the context of preschool expansion. *AERA Open*, 3(4), 1-16. ⁷Weiland, C., McCormick, M., Mattera, S., Maier, M., & Morris, P. (2018). Preschool curricula and professional development features for getting to high-quality implementation at scale: A comparative review across five trials. *AERA Open*, 4(1), 1-16.

These core features, when consistently applied to PLD models, have been identified as components critical to the successful outcomes of PLD, both in addressing teacher behaviour and in promoting positive student outcomes. Core features include: support from an external expert, trainer or coach; explicit content that integrates teaching theory and practice; multiple opportunities to actively learn and apply knowledge to relevant contexts; observation, coaching, or performance feedback; and the use of student assessment data to inform practice and monitor impact on student outcomes. These core features are further discussed in the following sections, followed by an examination of the structural features.

Supported by an external expert, trainer, or coach. In the literature identified in Table 2.1, an external expert with specific content knowledge contributed to the successful outcomes of the PLD. Dunst et al. (2015) and Hamre et al. (2017) both refer to the expert as the PD specialist, coach, or trainer, and acknowledge in their research syntheses those studies that refer to specific certification required of those who deliver PLD content (i.e., Pianta, La Paro, & Hamre, 2008). Reinke et al. (2012) refer to the certification process associated with group leaders and coaches of the IY TCM programme, their selection process, and the additional training received, in order to deliver the IY TCM content and coach teachers in their classrooms. During Phase 2 of Bishop and Berryman's Te Kotahitanga project (2010), further delivery expertise was required and, as such, a wider range of in-school facilitators were trained to implement the PLD process with teachers in schools. Of the studies listed in Table 2.1, the role of the expert is implicitly, rather than explicitly described. Weiland et al. (2018), refer to an "expert teacher" (p. 2) but provide little description as to the criteria surrounding this expertise.

Timperley et al. (2007) do, however, expand on expert criteria in their metasynthesis of PLD literature, acknowledging that the presence of an external expert alone does not guarantee success in and of itself. Referring to the concept of *provider pedagogical content knowledge*, Timperley et al. suggest that experts need not only have the relevant content knowledge but must then be able to apply this knowledge in ways that make it meaningful and manageable to teachers within their own classroom

settings. As discussed earlier, teachers' practices are inherently connected to their beliefs. Timperley et al. (2007) suggest that experts who recognise this connection between beliefs and teaching practice are more effective in assisting teachers to accommodate new learning and new skills into their classroom practice. The authors do caution, however, that the effectiveness of any PLD does not rest on the provision of an external expert alone. Rather than one single component, such as the expertise of a PLD provider, it is the successful combination of all core PLD components that ensure positive outcomes and change in teacher practices.

Explicit content that integrates theory and practice. Ensuring that content explicitly integrates both theory and practice (i.e., making learning manageable and relevant for teachers) is an important factor in teacher uptake of new knowledge and skills. Theory and practice are not presented in isolation. Instead, theory is presented as a basis on which curriculum and pedagogical decisions can be made. Given the integration of theory and practice has been identified as a barrier to the successful implementation of effective teaching through play practices (Bennett et al., 1997; Pyle & Danniels, 2017), it is useful to consider how best to support teachers in making theory–practice connections. Timperley et al. (2007) suggest effective PLD 'experts' are those who can support teachers to solve practice issues that arise, in theoretically consistent ways.

In the literature included in Table 2.1, the authors acknowledge the importance of assisting teachers to connect the theory to real-life practical content knowledge and teaching practices. For example, Weiland et al. (2018) highlight specific PLD programs using highly scripted practices that can be immediately applied within the classroom setting and suggest scripted practices support teachers to reduce their "logistical and cognitive loads" (p. 11). Reinke et al. (2012) draw on experiential and self-reflective learning methods to support teachers' understanding of the theoretical underpinnings of classroom practices, such as role-play, observation, and video modelling. Bishop and Berryman's Te Kotahitanga PLD model (2010) identifies both a knowledge and practice component of implementation. This includes the opportunity for teachers to plan strategies to promote discursive interactions in their

classrooms, drawing on knowledge (i.e. theory) gained from both group workshops and during in-class professional development activities.

In the studies and metasyntheses highlighted in Table 2.1, the authors indicate the need for an explicit set of teaching practices, with identified theoretical underpinnings, to guide the focus of the PLD. Explicit, theoretically based practices can be linked to the fundamentals of teaching (i.e., curriculum, pedagogical and assessment knowledge) or related to how students learn specific curricula. Furthermore, these practices have been known to promote positive outcomes for students (Hamre et al., 2017). However, in both Timperley et al. (2007) and Snyder et al.'s (2012) metasyntheses of PLD literature, variability was found with regards to the use of explicit foci on teaching practices. Timperley et al. highlight a varying emphasis on content, rather than practice knowledge. This can be attributed to the reputed lack of "content knowledge in mathematics, science and writing" (Timperley et al., 2007, p. xxxiii) of primary sector teachers, therefore attracting an increased focus on these areas with the provision of PLD. Snyder et al. identified that only 25% of the 256 published ECE studies they reviewed had an explicit focus on specific teaching practices. Instead, PD within this review focused on more generalised teaching practices, early literacy, and/or social-emotional teaching, without reference to any particular set of teaching practices.

Multiple opportunities to actively learn and apply knowledge. In examining the strategies used, within effective PLD approaches, to assist teachers in making the theory to practice connection, no one specific strategy or form is identified as more effective than others. Rather, it is the use of multiple and aligned opportunities to support teachers to learn and apply their new understandings that is key to effective PLD (Timperley et al., 2007). When teachers are provided with multiple opportunities to actively learn and apply knowledge to the teachers' unique context, positive changes in teacher practices occur (Dunst et al., 2015). These multiple opportunities can include discussing practice with colleagues or someone with specific expertise, observing others' practices, being observed and receiving feedback, and engaging in professional readings (Timperley et al., 2007). However, Timperley et al. draw attention

to both positive and negative examples of the use of varying professional learning activities within PLD studies. In studies with varied activities reviewed in their metasynthesis, both those with positive outcomes and those with low or no impact utilised the same types of activities as those listed above. Timperley et al. contend that it is not just identifying a successful strategy and applying it to teacher PLD that ensured successful outcomes. Rather, it was the understandings that came about through engagement in these activities and the alignment of the content to the activity, that were more effective than the activities themselves. Because of this, the effect of a combination of activities, including how these activities are structured and applied, is now a growing area of focus for PLD specialists and researchers.

Includes observation, coaching, or performance feedback. In all the studies reviewed in Table 2.1, reference was made to the use of observation, coaching and/or, performance feedback either during and/or after in-service PLD. Various terms were used to describe these strategies, including coaching, mentoring, performance feedback, and ongoing consultation. The lack of clarity and consistency regarding these terms is discussed further within the coaching teachers section of this chapter. In general terms, however, the use of observation (i.e., observing others demonstrating a skill or practice, and having someone observe a teachers' own practices) is recognised as a key PLD characteristic associated with positive teacher and student outcomes (Dunst et al., 2015; Reinke et al., 2012). Observations enable the 'expert' supporting the teacher to contextualise and adapt the support and feedback they are providing to promote generalisation of new knowledge and skills into the classroom (Reinke et al., 2012). The components of coaching, their frequency of use in current PLD, and the way in which they assist teachers to contextualise new knowledge and skills into their classroom environment is discussed in significant detail in the Coaching of Teachers section of this chapter.

Use of student assessment data to inform practice and monitor impact on student outcomes. Four of the studies included in Table 2.1 refer to the ways in which assessment data is used to inform key decisions regarding the use of PLD in addressing teacher knowledge and effectiveness

(i.e., Bishop & Berryman, 2010; Hamre et al., 2017; Timperley et al., 2007; Weiland et al., 2018). Seen as assisting teachers to consider the teaching-learning relationship, the use of assessment data highlights the underpinning notion that student learning is a function of teaching (Desimone, 2009; Guskey, 2003). Therefore, assessment data provides teachers with the information needed to improve their teaching, such that improvements can then be seen in student learning.

Timperley et al. (2007) identified 50% of the core studies within their metasynthesis specifically referred to both the development of understanding and use of assessment as part of wider PLD implementation. While assessment was not an isolated component of the PLD focus, the way in which it was analysed and used enabled teachers to review the effectiveness of the PLD and provided a purpose for improving teaching. Types of assessment varied within the studies included in Timperley et al.'s metasynthesis, including results from standardised tests, observation of student work, drawings and interviews, and students' own thinking and understandings.

Bishop and Berryman (2009) draw on data collected using the Effective Teaching Profile (ETP) to assist secondary school teachers to examine the teaching-learning relationship, with a focus on relationships established, the range of interactions used, and student participation and performance. Applying Kaupapa Māori perspectives to their PLD approach, the authors emphasise the contribution relationships make to positive student outcomes. Observation data collected using the ETP examined the relationship between teacher behaviour and student engagement. As a result, actionable steps were then put in place to address future goals for both teacher and student learning. Similarly, at an early years level, Weiland et al. (2018) cite examples of a PLD model, Making Pre-K Count (MPC), that used real-time child-level data to support teachers' responses to individual children during PLD coaching sessions. Teachers involved in the MPC model would collect written information about children's skills and abilities and, with support from a PLD coach, identify goals linked to implementation behaviour that the teachers then implemented in the following weeks. Both ETP and MPC models support teachers to identify the teaching-learning relationship and its impact on positive student outcomes as part of the PLD process.

Despite acknowledging the use of data to guide decisions about effective PLD implementation, Hamre et al. (2017) discuss the lack of expertise in data-based decision making within the ECE field (Derrick-Mills, 2015; Mead & Mitchel, 2016). They note that while data is collected to support teachers to individualise their responses to students' needs, many ECE settings do not use data to make decisions about the type and frequency of PLD required to address teacher knowledge and skill development (Hamre et al., 2017; Zweig, Irwin, Kook, & Cox, 2015). Furthermore, they indicate that very few programmes reviewed within their study used student data to monitor effectiveness of PLD interventions, particularly including the use of coaching as a follow-up support. Timperley et al. (2007) reiterate that when using assessment data to inform decisions about the type, frequency, and effectiveness of PLD, relevant to student learning needs, teachers are able to modify their teaching practices in response to the needs of students who may not benefit from more traditional teaching practices. Timperley et al. suggest that "good assessment information allows for targeted teaching" (p. xxxiv), and that a focus on the teaching-learning relationship is paramount to this purpose.

Structural features of PLD. The structural and systemic support offered to teachers when engaging in PLD is a significant factor in determining the success and consequent effectiveness of any PLD approach (Timperley et al., 2007). This structural support can include participating in PLD as part of a wider learning community, or group of teachers, focused on a shared vision for improved practices. For example, Bishop and Berryman (2010) indicate that when encompassing all staff in a school who seek reformation of practice, rather than a few teachers, a cultural change occurs. Timperley et al. (2007) identified that the participation in a professional community of practice was more important than whether this learning occurred on-site or at an off-site location with a range of teachers from differing schools. The authors stipulate, however, that there was no evidence that participation in a professional learning community, on its own, would lead to changes in student outcomes. In some cases, isolated participation in professional learning communities had the opposite effect, in that it reinforced ineffective status quo practices (Coburn, 2001).

In the literature examining on-site PLD provision, effective school leadership was clear as a contributing factor to the positive outcome of the PLD programme. This leadership included ensuring the appropriate supports were put in place, such that teachers were provided with opportunities to learn, time to process new information, and ongoing access to relevant expertise. School leaders actively communicated and led a collective vision for the outcome of the PLD, making clear the links between the PLD goals, student outcomes, and the wider-school goals. The process of identifying and communicating a vision to those engaged in the PLD is associated with better outcomes for students (Timperley et al., 2007).

Across the literature, an examination of the time teachers spent engaging in PLD is a key inquiry point. In their metasyntheses of PLD literature, Timperley et al. (2007) and Dunst et al. (2015) infer a link between extended support over time and positive outcomes for teachers and students. However, exactly for how long teachers should be engaged in PLD is not easily defined (Hamre et al., 2017). In many studies, the number of in-service training hours associated with positive effects ranged between 15 and 80+ hours (Dunst & Trivette, 2012; Isner et al., 2011; Joyce & Showers, 2002). In a more recent study, this period was indicated as between 6 and 450 hours, with the rate of intensity correlating with increased positive outcomes for those involved (Markussen-Brown et al., 2017). The wide variation in time spent engaged in PLD and its impact on teacher practice can be explained by understanding the desired outcome the PLD approach or content may have (Dunst et al., 2015; Hamre et al., 2017; Timperley et al., 2007). When curriculum content is narrowed, or discrete teaching practices are targeted, a shorter intensity, frequency, and duration of PLD has been shown to be enough to raise student achievement (Caulfield-Sloan & Ruzicka, 2005; Rowe, Pollard, & Rowe, 2005).

In general, however, the way in which time was spent, rather than the amount of time spent in and of itself, correlated with positive outcomes for teachers and students (Timperley et al., 2007). Extended periods of time, coupled with frequent contact, supported the iterative nature of learning, particularly when PLD challenged core values, beliefs, and understanding of new practices. Where

teachers needed time to accommodate and reflect on challenging concepts and material, the intensity, frequency, and duration of PLD was an important factor in supporting this process (Bishop & Berryman, 2010; Dunst et al., 2015; Snyder et al., 2012; Timperley et al., 2007).

Summary. Table 2.1 provides a synthesis of essential core and structural components of PLD in the studies discussed. While considering the individual nature of these components and their relevance to teachers' learning, the research indicates that it is the collective combination of components, rather than individual strategies used in isolation, that contributes to the effectiveness of PLD (Dunst et al., 2015; Hamre et al., 2017; Timperley et al., 2007). Hamre et al. (2017) suggest that for many teachers who are engaged in evidence-based models of PLD, these components become a set of experiences that are "clearly articulated, scoped and sequenced" (p. 7). However, for many teachers who are engaged in PLD that is not evidence-based, the experience can lack the focus and clarity needed in order to challenge and shift their practice. Ensuring PLD is evidence-based, with clear processes in place to provide support for effective implementation, will provide teachers with opportunities to engage in PLD that promotes sustained changes in teaching practices.

Barriers to Implementing Effective PLD

Given the complex environmental system schools represent, determining an effective, appropriate approach to implementing evidence-based practices, while managing the ecological realities of the classroom, can be an ongoing challenge for schools (Shannon et al., 2015). There are several significant barriers researchers identify that can impede the ways in which teachers engage in and benefit from PLD opportunities. These barriers include education policy, time, cost, and the expertise of PLD providers.

Education policy. Professional learning opportunities can be influenced by education policy in a variety of ways. Knapp (2003) identified that regulation and subsequent requirement for both PLD and teaching-related activities shaped the availability and prioritisation of PLD foci in schools. Furthermore, policy can influence: general messages about what is considered important; allocation of money, time

and available expertise; incentives, such as sanctions and rewards; and assistance in terms of structures, personnel, and associated resources (Timperley et al., 2007).

The influence of policy can be demonstrated in a New Zealand example where the implementation of education policy between 2009 and 2016 focused on standardised assessment and affected the way in which PLD was offered and accessed by teachers. With the introduction of the National Standards (Ministry of Education, 2009b; 2009c) New Zealand PLD focused on the delivery of teaching instruction targeted at the attainment of identified levels of literacy and numeracy proficiency. The Education Review Office (ERO), the government department responsible for reporting and evaluating on the education of children in New Zealand schools, was charged with the responsibility of ensuring schools had policies and procedures in place to identify and respond to those students who were not achieving the expected literacy and numeracy standards. In implementing the National Standards, the Ministry of Education argued that successful academic engagement in school and mastery of skills and knowledge by students was, in part, the result of teacher skill and understanding in measuring achievement, and understanding expected levels related to the corresponding year level of students (O'Connor & McTaggart, 2017). As a result, PLD focused on the teaching of literacy and numeracy, to support attainment of these expected levels, was provided to schools while the Standards were still being constructed as policy (Lee & Lee, 2015).

Critics of National Standards policies suggest that when a standardised approach of assessment is adopted, delivery of the curriculum becomes narrowed. In one example, Irwin (2018) conducted a New Zealand study of 124 teachers, and identified the “non-existence” (p. 18) of PLD to support the implementation of the National Arts Curriculum, along with a lack of confidence in implementing all aspects of the Arts by teachers who did not have an individual passion for the subject area. The study suggests the pressure mounted on schools to perform to the literacy and numeracy standards directly impacted on the professional learning opportunities available to teachers and subsequently on the quality provision of the National Arts Curriculum.

Time and cost. Given education policy can influence the focus of available PLD opportunities, the provision of funding and time can be a significant barrier for teachers to access PLD they may seek as relevant to their individual learning needs (Timperley et al., 2007). With research identifying the need to offer teachers extended opportunities to learn, rather than one-off training or workshop approaches, the commitment by a school to engage in ongoing PLD, potentially on a weekly or fortnightly basis, can be costly and presents additional challenges such as the management of teachers' time out of the classroom and associated relieving teacher costs. Investing in effective PLD requires schools to allocate resources to cover staff training and time, in ways that ensure teachers engage in PLD that will contribute to positive student outcomes and sustained changes in teacher practices (Hamre et al., 2017).

Expertise of PLD providers. The success of any PLD approach is reliant upon those responsible for the delivery of the PLD, including their content knowledge and facilitation skills (Hamre et al., 2017; Heineke, 2013). As discussed earlier, PLD providers, or facilitators, require pedagogical content knowledge to make the PLD content meaningful and manageable for the teachers they are supporting. Yet, utilising content experts does not ensure effective PLD provision (Timperley et al., 2007). PLD facilitators require support and training to ensure well-developed PLD facilitation skills to assist teachers to connect theory with practice. The way in which this is done requires PLD facilitators to have a knowledge of the realities of day-to-day teaching and contextualise this within the framework of the PLD content provided. Timperley et al. (2007) note that those providers who expect teachers to implement a preferred set of practices, rather than facilitating a more iterative approach related to the classroom context these practices could exist within, were less effective in changing teacher practice over time. Facilitators require skills such as developing collaborative and trusting relationships with teachers; understanding how to conduct observations of practice; and providing reflective and constructive feedback to ensure teachers engage with the PLD and consider implementing new practices. Furthermore, facilitators need to be responsive to the learning needs of their teachers and the complexity

of teaching, ensuring teachers feel the content is both meaningful and manageable to their own context of teaching practice (Kennedy, 1999).

Summary. The provision of effective PLD relies not only upon the successful combination of both structural and core components identified earlier, but the consideration of the wider education context in which teachers operate. Education policy, and the expectations of wider society on what is deemed valuable and relevant, influences the nature and content of PLD made available to teachers (Knapp, 2003). Education policies can, in turn, influence where schools allocate funding and time towards accessing effective PLD. To ensure effective PLD, providers need ongoing training and support in both pedagogical content knowledge and facilitation skills. PLD providers and schools will need to find a careful balance between the provision of both core and structural components of effective PLD and the realities of managing this PLD within the wider school context. An emerging area of research that provides an example of this careful balance is that of coaching teachers within their classroom and school community. The remainder of this chapter will now examine the literature on coaching methodologies, and the efficacy of coaching as a model of PLD.

Coaching of Teachers

Coaching is identified as an effective PLD activity to provide ongoing guidance by supporting evidence-based skill development, transference and generalisation of new knowledge and skills into practice, and the sustained use of these skills and knowledge over time (Becker, Darne, Domitrovich, Pitchford Keperling, & Ialongo, 2013; Lloyd & Modlin, 2012; Stormont, Reinke, Newcomer, Marchese, & Lewis, 2015). As discussed earlier, with knowledge and understanding of the components of effective PLD provision growing, traditional “one-shot” activities, such as workshops, are increasingly recognised as ineffective in impacting teachers’ abilities to use, embed, and sustain new evidence-based knowledge and skills into their own teaching context over time (Garet, Porter, Desimone, Birman, & Yoon, 2001; Lloyd & Modlin, 2012). This section will discuss coaching PLD, including varying terms used to describe the coaching approach, as well as provide a key definition for coaching of teachers relevant to this study.

Subsequent sections of this review will provide discussion on approaches to coaching and coaching within the New Zealand context. This section will then conclude with an examination of an international coaching model, practice-based coaching, and consider the use of this model in the New Zealand education context.

Coaching terminology and definitions. Researchers often interchange the terms coaching, observation and feedback, consultation, and mentoring to describe the ways in which these types of extended PLD support can be offered. Mentoring and consultation are identified as providing feedback that is more generalised in nature, whereby coaching is used to respond directly to observed classroom practices (Blazar & Kraft, 2015; Wildman, Magliaro, Niles, & Niles, 1992). It is the combined use of observation and direct, explicit feedback that contributes to the broader definition of coaching within the literature. The National Association for the Education of Young Children and the National Association of Child Care Resource and Referral Agencies (2012) define coaching as “a relationship-based process led by an expert to build a practitioner’s capacity for specific professional dispositions, skills, and behaviours” (as cited in Snyder et al., 2015, p. 134). Knight (2007) refers to coaching as instructional, whereby teachers are engaged with an on-site professional developer who provides intensive, differentiated support to identify and assist implementation of evidence-based instructional practices. Within an early intervention context, Rush and Shelden (2008) suggest coaching is

an adult-learning strategy that is used to build the capacity of a person or colleague to improve existing abilities, develop new skills, or gain a deeper understanding of practices for use in current and future situations. (p.1).

In summary, coaching can be viewed as an on-going, non-evaluative process, whereby an individual observes the practice of another and provides feedback in relation to specific practices or a targeted intervention that the observed individual wishes to increase within their classroom (Sanetti, Kratochwill, & Long, 2013; Stormont et al., 2015).

Approaches to coaching. There exists a significant variation of coaching formats and approaches within the wider coaching literature. These formats include expert, peer, and self-coaching, with delivery varying from face-to-face, to web-based options. In a review of 101 Early Years studies published from 1995 to 2011, the National Professional Development Centre on Inclusion (NPDCI) (2008) identified the who, what, and how of coaching provided within these studies, indicating a considerable variation in the way in which coaching as a PLD tool was utilised. In 75% of the studies reviewed, coaching was provided by consultants or research staff, with colleagues and peers providing feedback in 6% of the studies. Individuals provided feedback to themselves in 8% of the studies. Nineteen percent of the studies indicated that the coach had received formal training in coaching. In 40% of the studies, coaching was paired with in-service opportunities, however, in 24% of the studies, coaching was the primary form of professional development. There was a significant lack of detail provided by the studies on the coaching procedures adopted and the professional development offered to teachers.

In recent times, however, increasing named models and approaches to coaching have been developed and tested to offer effective and specific coaching frameworks in response to the call for an evidence-based coaching approach to teacher PLD. Examples include My Teaching Partner (Gregory et al., 2017; Early, Ponder, Maxwell, & Pan, 2017; Hamre, Pianta, Mashburn, & Downer, 2012); Te Kotahitanga Project (Berryman & Bishop, 2011; Bishop & Berryman, 2009, 2010; Bishop, Berryman, & Wearmouth, 2014); Practice-based coaching (PBC) (Snyder et al., 2015), and Job Embedded Professional Development (Pacchiano, Klein, & Hawley, 2016; Whalen, Horsley, Parkinson, Vasquez, & Tozer, 2016). Many coaching models operate to support teachers generally, at a teacher's request when a need arises (Cohen & Kaufmann, 2000), and are rarely paired with intentional support focused on an explicit set of teaching practices (Weiland et al., 2018). Coaching approaches that do not occur with an explicit focus on a defined curriculum or set of teaching practices have been largely unsuccessful in improving the quality of teaching instruction (Piasta et al., 2017; Yoshikawa et al., 2015). The coaching approaches listed above differ from more generalised coaching, reported on in early coaching literature,

as they provide a coaching framework that ensures a focus on the effective use of a set of identified teaching practices linked to positive child outcomes (National Center for Quality Teaching and Learning, 2014).

Measuring coaching fidelity. Since the NPDCI (2014) review discussed above, there has been more focus on describing coaching approaches, including the components discussed earlier and measurement of implementation fidelity. A growing body of research now aims to address key questions raised regarding the specific forms (i.e., expert coaching, peer coaching), formats (i.e., face to face, web-based), and doses or frequency of coaching models that support positive changes in teaching practices (Fox, Hemmeter, Snyder, Binder, & Clarke, 2011; Shannon et al., 2015; Snyder et al., 2015). Moving beyond the simplistic inclusion of 'observation and feedback' and general reference to 'coaching', researchers are now working to develop more specific models of coaching that are being evaluated and specifically described. For example, in one of the first investigations to examine the form and dosage of professional development supports, Fox et al. (2011) undertook a study of the implementation fidelity of intervention practices related to the Teaching Pyramid Model (TPOT), reporting specifically on the dosage of instructional coaching received by the participant teachers. The authors of this study found that higher dosage rates of instructional coaching were needed to support teachers with the implementation of complex and comprehensive teaching practice frameworks, than coaching focused on a single practice, or set of related practices. However, given the small sample size of this study, a recommendation included the need for further research that illustrated key coaching strategies, as well as examining dosage needed to ensure implementation fidelity.

In a review of 29 studies focused on coaching of teachers in their classrooms to improve social and behavioural outcomes for students, Stormont et al. (2015) identified nine studies that reviewed fidelity of the coaching portion of the intervention. Of these nine studies, seven provided specific details on the collection and analysis of the fidelity data. Four of the 29 studies provided information as to how the coaches were trained and, of these, three also indicated a measure of coaching process fidelity. Overall,

Stormont et al. identified a lack of standardised information available that outlined details of the coaching process, including time spent in coaching, the provision of specific coaching strategies, and the way in which feedback occurred. Fidelity measures were highlighted as a key area of need within Stormont et al.'s review. Fidelity measures refer to how coaching process integrity was measured. These measures are vital if more is to be understood about what types of coaching activities are valued by teachers (i.e., have social validity) as well as how they impact the way in which teachers maintain and generalise new knowledge gained in PLD opportunities (Snyder et al., 2012; Stormont et al., 2015).

In a further example, Whalen et al. (2016) describe in specific detail the training and professional development provided to coaches in the Ounce PDI Study, and the completion requirements of several reflection and documentation forms intended to gain insight into the coaches' fidelity of PDI goals. The authors analysed 144 coach feedback forms and 300 teacher feedback forms in relation to the coaching processes undertaken within the PDI study, which, over a one-year period, guided coaches in their support of teachers working towards an alignment of teaching practices with the study goals.

Lastly, Snyder et al. (2015) present research focused on the use of practice-based coaching (PBC) to support early childhood practitioners' implementation of evidence-based teaching practices, (i.e., embedded instructional practices) with fidelity under two conditions: on-site expert coaching and web-based self-coaching. On-site expert coaching sessions alternated between face-to-face sessions and sessions conducted remotely via email, phone, or videoconferencing. Self-coaching provided teachers with web-based access to the same PD content with a weekly email reminder to engage in self-coaching. Snyder et al. outline core components of the PBC framework, with reference to theoretical and empirical rationales, including the use of needs assessment, goal setting, action plans, focused observation, and reflection and feedback. Information on frequency and dosage of coaching is provided by Snyder et al. and, using coaching logs, coaching implementation fidelity was examined in relation to the delivery of core coaching components across both study conditions. A description of the components of the PBC model is detailed further in the PBC section of this review.

Summary. The reporting of the components of coaching provision, including the use of specific coaching strategies, dose, frequency, and fidelity of implementation, such as the examples above, is a significant progression in the research regarding the provision of coaching-based PLD supports from earlier, more general PLD literature. In focusing on the components of coaching models and the fidelity of implementation of these models, researchers can identify PLD associated with measurable change in teacher practices. Coaching models continue to evolve with researchers focusing on addressing gaps in knowledge and identifying barriers to effective implementation (O’Keefe, 2017). In the following sections, literature focused on coaching in both the New Zealand and international context will be reviewed, with the components and findings of two examples, Te Kotahitanga Project and PBC outlined in further detail.

Coaching in New Zealand

Much of the literature examining the impact coaching has on teacher practice is situated predominantly within United States research settings. However, 24 New Zealand based studies were included in the metasyntheses of PLD approaches by Timperley et al. (2007). These studies made frequent reference to ‘observation and feedback’, reflecting a more generalised concept of coaching within New Zealand PLD approaches. Components generally identified within the structure of observation and feedback include: listening; watching someone modelling or a video demonstration; being observed and receiving feedback; engaging with professional readings; discussing practice with more expert colleagues/facilitator; and analysing current practice and co-constructing new practices (Timperley et al., 2007). However, details pertaining to specific components of this ‘observation and feedback’ are not reported on, resulting in researchers’ inability to confidently identify which components were effective or ineffective in supporting changes in teacher practices. In addition, specific dose, frequency, and quality of implementation of these components were not widely reported with any depth within the New Zealand based research.

Three large-scale PLD programmes available to New Zealand teachers over the last several decades have included a regular component of observation and feedback. Two of these programmes,

Reading Recovery and the Numeracy Development Project, are outlined below with the third, the Te Kotahitanga project, examined in further detail in The New Zealand Context section of this chapter.

Reading Recovery, a New Zealand based remedial programme focused on supporting student literacy development, engages experienced junior schoolteachers in fortnightly in-service sessions over the course of a year (Reading Recovery New Zealand, 2019). During these sessions, teachers develop specific teaching procedures and an understanding of the implementation of the assessment tool used to guide this teaching (Clay, 1994). Research surrounding the reading recovery programme has been centred on efficacy and student outcome, rather than on the impact of specific training strategies used with the reading recovery teachers, trainers, or tutors. Training processes include the “observation and discussion of live reading recovery lessons” (Reading Recovery New Zealand, 2019, para. 3). The structure of this observation and discussion component to the PLD was not reported within the literature examining reading recovery PLD in New Zealand.

A second large-scale PLD project offered to New Zealand schools between 2000 and 2009 was the Numeracy Development Project (NDP). The project intended to improve student performance in mathematics, by increasing the professional capabilities of teachers (Ministry of Education, 2019a). Teachers involved in this training participated in six to eight workshops of 2.5 hours duration and received at least three in-class observations and follow-up feedback. PLD facilitators modelled new practices in teachers’ classrooms and provided detailed instructional activities and resources in response to the context in which they were working and the specific needs of their groups of teachers. Timperley et al. (2007) note that in-school facilitation response approaches varied considerably amongst PLD providers and that these approaches were implicit, rather than explicit. The lack of information regarding the specific strategies used during observation, in-class modelling, and the provision of feedback by the PLD facilitators does not assist in identifying what specific aspects of the NDP PLD supported teachers to change their teaching practices. Further research is needed if PLD providers wish to identify the

strategies used in the NDP programme that specifically impacted the way in which teachers taught mathematics in their classrooms.

A New Zealand example: Te Kotahitanga project. A third large-scale New Zealand PLD project, Te Kotahitanga, aimed to improve outcomes for Māori students in mainstream New Zealand highschool settings, by introducing a culturally responsive pedagogical framework to teachers. As discussed earlier, this project involved teachers refining their practice related to key practices identified in the Effective Teaching Profile (ETP) (Bishop & Berryman, 2009; 2010). After attending an initial 3-day hui (meeting), teachers followed a term-by-term cycle, engaging in specific but interdependent loops of teacher observation, feedback, co-construction meetings, and shadow coaching. Data collected using the Te Kotahitanga Observation Tool (Berryman & Bishop, 2011) informed this cyclic support, providing a discussion point for both the observer and the teacher regarding the ways in which the teacher aligned their practice with the ETP.

Te Kotahitanga publications have provided clear protocols regarding the way in which the feedback and co-construction meetings were to be run at the conclusion of the focused observation session (Berryman & Lamont, 2013a). These protocols referred to both the structural and core components required of facilitators and teachers during the feedback and co-construction meetings. Structurally, the protocols ensured a clear understanding of the length, frequency, and timing of these meetings. Facilitators were reminded to “use this time for professional learning conversations rather than chit chat” (p. 7), indicating a desire to avoid both a devaluing of teachers’ time as well as general, non-focused feedback and discussion.

Core components of the Te Kotahitanga feedback and co-construction meetings included the use of evidence to generate a reflective discussion regarding teachers’ strengths (i.e. feedback) and areas of need (i.e. feed forward) in relation to the ETP (Berryman & Lamont, 2013a). Bishop and Berryman (2010) emphasised the importance of basing feedback on events recorded or annotated during classroom observations, and to ensure that feedback: generated reflection; was positive; and enabled a

feed-forward approach to guide teachers' decisions in addressing areas of their practice further. Subsequent individual teaching goals were then co-constructed using the model of GEPRISP (Goal, Experiences of Māori students, teacher's discursive Positioning, Relationships, Interactions, Strategies and Planning), an acronym used to summarise the framework established by the researchers to support and evaluate the operationalisation of the ETP (Berryman & Lamont, 2013b).

At the conclusion of the feedback and co-construction meeting cycle, facilitators engaged in targeted shadow-coaching to assist teachers towards the implementation of their identified goals (Bishop & Berryman, 2010; Bishop, Berryman, Cavanagh, & Terry, 2007). This shadow coaching was described as the facilitator "supporting individual target teachers to meet their personal and group goals by coaching them in their classroom or other environment where work towards the goal is naturally likely to occur" (Bishop, Berryman, & Wearmouth, 2014, p. 17). Components of shadow coaching were referred to within the general description of this coaching approach, and included collaborative planning, adapting the environment, modelling, as well as reflective and constructive feedback. However, the authors do not report further on these components, nor do they describe the frequency, dose, and quality of facilitation of these components and their impact on the outcomes of the PLD intervention. Further information would be useful regarding how these strategies were used with teachers and the impact they had on changes teachers made to their classroom practices.

The use of a set of defined teaching practices to guide the coaching process is not common within the New Zealand PLD context. However, the Te Kotahitanga project provides an example of how teachers can be supported to critically reflect on observational evidence of their practice and to align this data with practices associated with positive outcomes for Māori students. The creation and use of the ETP aligns with the wider literature identifying the need for PLD to not only be supported by an external expert, trainer, or coach, but to have explicit content that integrates theory and practice and uses student assessment data to inform practice and monitor impact on student outcomes. Further research is needed,

across a range of teaching contexts, focused on the application of coaching models and their impact on teachers' practices within the New Zealand education sector.

Practice-based Coaching

Practice-based coaching (PBC) (Snyder et al., 2015) is a model developed at the University of Florida under the direction of Dr. Patricia Snyder and in partnership with colleagues on the Embedded Instruction for Early Learning Project (Snyder et al., 2018) and the Teaching Pyramid Model evaluation project (Hemmeter, Snyder, Fox, & Algina, 2016). PBC was adopted by the Head Start National Center for Quality Teaching and Learning and has been used widely across the United States in early learning settings. PBC is defined as a “cyclical process for supporting teachers’ use of effective teaching practices that lead to positive outcomes for children” (National Center for Quality Teaching and Learning, 2014, p.1). In supporting the implementation of these teaching practices, coaches engage with teachers in (1) planning of goals and action steps; (2) focused observation; and (3) reflection and sharing of feedback aligned with the focus teaching practices.

The PBC cycle begins with the establishment of clear practice goals and action steps to support the achievement of these goals. The goals are used to guide the focus of subsequent observations of teaching practices, which in turn, contribute to reflective conversations regarding these practices. Figure 2.1 summarises this cyclic process and the three key processes of PBC. Additionally, throughout PBC’s cyclic process, a variety of support strategies are used by the coach to assist teachers to implement the effective teaching practices associated with the PBC focus (National Center for Quality Teaching and Learning, 2014). These strategies can include modelling, problem-solving, in-situ support, and role-playing. A more detailed summary of all the support strategies utilised during the PBC cyclic process are provided in Appendix A.



Practice-Based Coaching Graphic

Figure 2.1 Practice-based coaching graphic

Note. Image retrieved from National Center for Quality Teaching and Learning. (2014). *Practice-based coaching*. Retrieved from <https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/pbc-handout.pdf>

Practice-based coaching key ingredients. A key ‘ingredient’ underpinning the impact of this cyclic coaching process is the use of effective teaching practices to guide the process of observation and reflective feedback. Effective teaching practices are identified as those which are specific, observable, and measurable, and which involve change to the physical, temporal, interactional or instructional environment in ways that support children’s learning, adaptation, and/or competence (Snyder et al., 2015). In an examination of 48 studies of coaching used within the early childhood sector, 31 of these focused on either practices that improved overall classroom or environmental qualities, or on specific teaching practices targeted at identified student learning outcomes (Isner et al., 2011). In their summarised findings from 32 PD studies that included a coaching component, Winton, Snyder and Goffin (2016) found positive effects reported on measures of classroom quality, teaching practices and, in some

studies, student learning outcomes. The teaching practices reported in these studies most commonly had a focus on specific curricula or content domain, such as literacy or socio-emotional development.

A second key 'ingredient' reiterated in the PBC literature is the importance of the collaborative partnership between coach and teacher, in which the interactions between the two occur in a safe, non-evaluative or non-judgmental space (National Center for Quality Teaching and Learning, 2014; Snyder et al., 2015). This positive relationships-based foundation develops and occurs over time, and enables teachers to feel supported in asking questions, discussing problems, seeking support to try new ideas, and reflecting on feedback regarding specific teaching practices they are utilising in their environment. The cyclic components of PBC provide a framework that strengthens this collaborative partnership, with each coaching partnership individualised to both the strengths and needs, shared knowledge and understanding, and outcomes sought by both coach and the teacher involved (National Center for Quality Teaching and Learning, 2014). Adult learning theory highlights the importance in supporting adult learners to be both autonomous and collaborative in their engagement with new learning (Gordon, 2004). In developing and supporting a collaborative partnership, PBC enables teachers to operate independently to implement teaching practices, with a coach providing effective and explicit prompts and feedback about practice implementation (Snyder et al., 2015). In doing so, higher rates of implementation fidelity of targeted teaching practices are likely to be achieved (Burns & Ysseldyke, 2009; Noell et al., 2005; Stormont et al., 2015). In addition, the collaborative partnership provides both emotional and personal support for teachers, an additional need identified by teachers as an effective component of on-going PLD (Shannon et al., 2015; Timperley et al., 2007).

Practice-based coaching formats. The components and framework of PBC described above, have been empirically tested across several different coaching formats. These include expert face-to-face coaching (Conroy et al., 2014a; Conroy et al., 2014b; Fox et al., 2011; Hemmeter et al., 2016), expert web-mediated distance coaching (Artman Meeker et al., 2014), self-coaching with web-mediated support (Snyder et al., 2015), peer coaching, or group coaching followed by self-coaching with expert

self-monitoring support (Bishop, Snyder, & Crow, 2015). While the delivery format of PBC differs across these research settings, the components described above remain in place, but often, within the individual studies, being referred to in slightly different terms. For example, in self-coaching, teachers are required to “self-monitor” rather than complete an observation, and “self-evaluation” refers to reflection and feedback (Snyder et al., 2015). In all the studies, the combination of training and PBC indicated positive effects on teachers’ fidelity of implementation of the targeted teaching practices and, where monitored, positive effects on child learning outcomes (Snyder et al., 2015).

Practice-based coaching in New Zealand. PBC was first established in the USA around 2007 and has grown in its use within and across states over the past decade. Within New Zealand there is a recognition of the value of performance feedback and the use of observation to inform this feedback within New Zealand PLD literature (Timperley et al., 2007), yet, explicit coaching models and approaches that use feedback and observation are not well reported on. New Zealand based PLD research cites ‘observation and feedback’ as a PLD approach, yet consistently lacks detail on the components and efficacy of these practices on the outcomes for both teacher practice and student learning. As discussed earlier, the Te Kotahitanga Project is an exception and an example of a coaching model that reflects many similar components to that of PBC, including the use of a set of effective teaching practices to guide focused observation, goal setting, and reflective discussion and, as a result, identifies positive outcomes for both teachers and students. However, in general, at the time of conducting the present research, New Zealand researchers had not yet explored or reported on the use of PBC in education settings. Given the positive outcomes reported in the USA, there is a need to explore how this approach to coaching might work in New Zealand based settings.

Summary. Teacher professional learning is a complex and on-going process, requiring a multi-layered level of support essential for the development of proficient and sustainable teaching practices and knowledge. The connection between high-quality PLD and student achievement is well supported within the wider literature (Cohen & Hill, 2001; Desimone, 2009; Guskey, 1995, 2002; Krasnoff, 2014;

Sawchuck, 2010). The research is clear that, given the complexity of teacher professional learning processes, the historically predominant use of one-time workshops, conferences, or off-site training sessions are ineffective in contributing to changes in teacher practices (Joyce & Showers, 2002). As such, research has turned to focus on effective components of PLD that not only enable teachers to engage with new material but embed this knowledge in their practice and sustain changes over time. A significant component identified in high-quality PLD is that of teacher coaching. While a general understanding exists as to the value of teacher coaching, there continues to be a wide variation of the use of both terminology and components of coaching within the PLD literature. Attribution of different meanings to terms such as 'observation and feedback', 'coaching' and 'mentoring' demonstrate a lack of clarity and consistency within this area of PLD research. Specific components of these approaches are not widely reported in New Zealand, with researchers referring to the provision of coaching as a general, rather than specific, support for teachers engaged in PLD. Emerging literature focused on the use of named coaching models, such as PBC, provide promising evidence of positive outcomes from explicitly described components. However, these promising outcomes attributed to international coaching research are yet to be widely investigated within a New Zealand context. The use of evidence-informed coaching approaches is limited in New Zealand teacher PLD and as such, further research is needed to determine the impact of such coaching models on New Zealand teacher practices.

Chapter Summary

This review sought to evaluate and critique the research associated with the way teachers view, know about, and use play as a teaching tool in the primary school setting. It also sought to explore the way in which teachers can be supported by PLD, to ensure the effective implementation of play as a pedagogical tool. In earlier sections, a review of the literature identified that teaching through play is a complex and often misinterpreted pedagogical process. Despite significant literature regarding the benefits of learning through play, and the role the teacher has in supporting this, there exists a divide between what teachers believe and know, and how they apply this, in practice, in the play-based

classroom setting. The literature does not provide teachers with explicit examples of observable teaching practices associated with teaching through play. In other words, what does teaching through play *look* like? What do teachers *do* when children are engaged in play in their classrooms? Explicit examples of teaching through play practices, including in-service PLD opportunities are needed in order to address these questions and provide a practical framework with which teachers can implement evidence-based effective play pedagogies. However, there is limited literature describing PLD that supports the evidence-based practical application of play pedagogies within the primary school learning environment.

As a result, this review presented literature associated with teacher PLD, including identifying components of effective PLD approaches and provided a synthesis of literature associated with PLD considered pertinent to the focus of the current study. There is evidence that participating in workshop-only PLD is insufficient in sustaining changes in teacher practices over time, yet one-shot workshops are widely used in attempts to support teacher knowledge and changes in practice. Core and structural components identified in the literature indicate the need for ongoing guidance for teachers if evidence-based skill development and new knowledge are to be transferred into practice. Throughout the literature, reference to the provision of 'observation and feedback' as a core component of teacher PLD is an emerging theme. While much of the earlier literature stops short of defining the components of 'observation and feedback', more recent literature focused on teacher coaching suggests that by combining a focus on explicit classroom teaching practices and ongoing reflection and feedback teachers are supported to embed and sustain changes in their practice over time. Named coaching models, such as practice-based coaching (PBC), that use a set of observable and measurable teacher practices, provide a framework with which to address effective teacher implementation. Additionally, they include identified processes with which to ensure implementation fidelity of the coaching process.

However, PBC is a model emerging within United States PLD approaches and is yet to be applied to the New Zealand context. Examples of the use of named coaching models in New Zealand education settings are limited. Given the emerging evidence reflecting positive outcomes for both students and

teachers of practice-based coaching, further exploration of the use of PBC may be useful within the New Zealand context.

Therefore, the proposed study intends to respond to the need identified within this review for teachers to be supported to implement effective teaching through play practices within play-based classrooms in New Zealand primary schools. In doing this, the study aims to identify the impact that two professional development models, workshop-only PLD and workshop and coaching PLD, have on the implementation of effective play-based pedagogies. Comparing a workshop-only approach to a workshop and coaching approach affords the opportunity to examine the relative outcomes of an approach that is widely used but is potentially ineffective, and an approach that is infrequently used but potentially effective for changing practice. Several questions have arisen from this review, and these questions form the basis for this study. These questions are:

1. What are primary teachers' beliefs and practices about play-based teaching and learning?
2. How does participating in a PLD programme, with and without on-going coaching supports, impact teachers' beliefs and practices in a play-based school environment?
3. What are teachers' perspectives about participating in a PLD programme, with and without coaching?

In the following chapter, the methodological considerations of the current study are outlined, and the methods used to explore teachers' beliefs and practices, and the impact of their participation in a PLD programme are described in further detail.

Chapter 3

Methodology

This chapter outlines the methodological approach undertaken in this study. It provides a description of the research aims and questions, along with an explanation of the research design. Information regarding the recruitment of participants, their background, and the study setting are shared before discussing the training and implementation procedures of the workshop and coaching intervention. Data collection measures and analysis are outlined and a summary of the ethical considerations conclude the chapter.

Research Aim and Questions

This research aims to identify the impact of two professional learning and development (PLD) models, workshop only PLD and workshop and coaching PLD, on the implementation of effective teaching practices within a play-based classroom in New Zealand primary schools. In doing so, the study sought to address the following research questions:

1. What are primary teachers' play-based teaching and learning beliefs and practices?
2. How does participating in a PLD programme, with and without on-going coaching supports, impact teacher's beliefs and practices in a play-based school environment?
3. What are teachers' perspectives about participating in a PLD programme, with and or without coaching?

Research Design

The study was underpinned by a pragmatic view of research, aimed at determining the practical outcome of an applied intervention to teacher learning and knowledge (Plowright, 2016). Influenced by doubt-theory belief and inquiry theories of classical pragmatists Charles Sanders Peirce (Dixon, 2019; Sleeper, 1986; Thayer, 1981) and John Dewey (Dixon, 2019; Sleeper, 1986) my intention is to address the gap in the research literature regarding effective ways to extend and support teacher knowledge and practice of play pedagogies in the New Zealand primary classroom.

Peirce's pragmatic maxim is concerned with identifying the connection between thought and action (Plowright, 2016). His doubt-belief theory asserts that thought or ideas create 'doubt', that is, a state of unease and dissatisfaction. Through action, humans are able to build a set of beliefs related to these thoughts and ideas, a process which Peirce identified as inquiry (Dixon, 2019; Peirce, Houser, & Kloesel, 1992; Plowright, 2016). Dewey, elaborating further on Peirce's work, connected thought and action to knowledge, with knowledge seen as a product of this pattern of inquiry (Dixon, 2019; Schön, 1992). In this study, I identified a 'state of unease' surrounding the way in which teachers are currently supported to implement play pedagogies within the primary classroom setting. An interventionist approach was undertaken to address this 'state of unease' surrounding teacher knowledge and teacher practices of play pedagogies. The product, of addressing the state of unease, has been new knowledge of, and beliefs about, the impact of this intervention on teacher knowledge and practice in the use of play in the primary classroom.

Given the pragmatic epistemological underpinning of this study, a mixed methods intervention design was applied to address the research questions posed, rather than adopting a purist approach of either quantitative or qualitative schools of thought (Creswell & Creswell, 2018). A mixed methodological approach ensures a selection of 'fit for purpose' tools, drawing on the strengths of both quantitative and qualitative data collection and analysis methods for the purpose of addressing the research questions (Harding, 2013; Johnson & Onwuegbuzie, 2004). Knowledge is viewed by pragmatists as both constructed and based on the reality of the world in which we live. In using both questionnaire and interview methods in combination with observational data collection, this research intended to identify teachers' constructed views (beliefs and knowledge) of teaching through play and their enacted teaching practices. The outcomes of this research are intended to provide insight into potential observable and measurable 'truths' between constructed teacher knowledge and views and the practicalities of implementation of teaching practices in a play-based setting.

The mixed methods intervention design had a two-fold intention: It sought to explore teachers' reported beliefs and practices regarding play pedagogies within the primary school setting; and it sought to examine the impact of PLD interventions on teachers' observed implementation of effective teaching through play practices when teachers receive one of two PLD conditions. These conditions were: 1) professional learning workshops only, or 2) professional learning workshops in combination with practice-based coaching.

As a mixed method intervention design, this study utilised both quantitative and qualitative data collection methods to address the research questions. Quantitative data collection methods were used to identify the frequency and intensity of change in teacher practice when engaged in one of two PLD intervention conditions. The beliefs of teachers implementing play pedagogies, as well as their perspectives on engaging in the intervention itself, were identified as the qualitative data collection foci (Creswell & Creswell, 2018).

This study has four identified phases, and data collected across these phases are reflective of the mixed methodology adopted in this study. A combination of quantitative and qualitative data were collected to address the first and second research questions, with qualitative data collection utilised to investigate research question three. Figure 3.1 describes these phases, the involvement of the teacher groups and the data collected at each phase. These are referred to as pre-data collection, workshop intervention, coaching intervention, and the post-data collection phases.

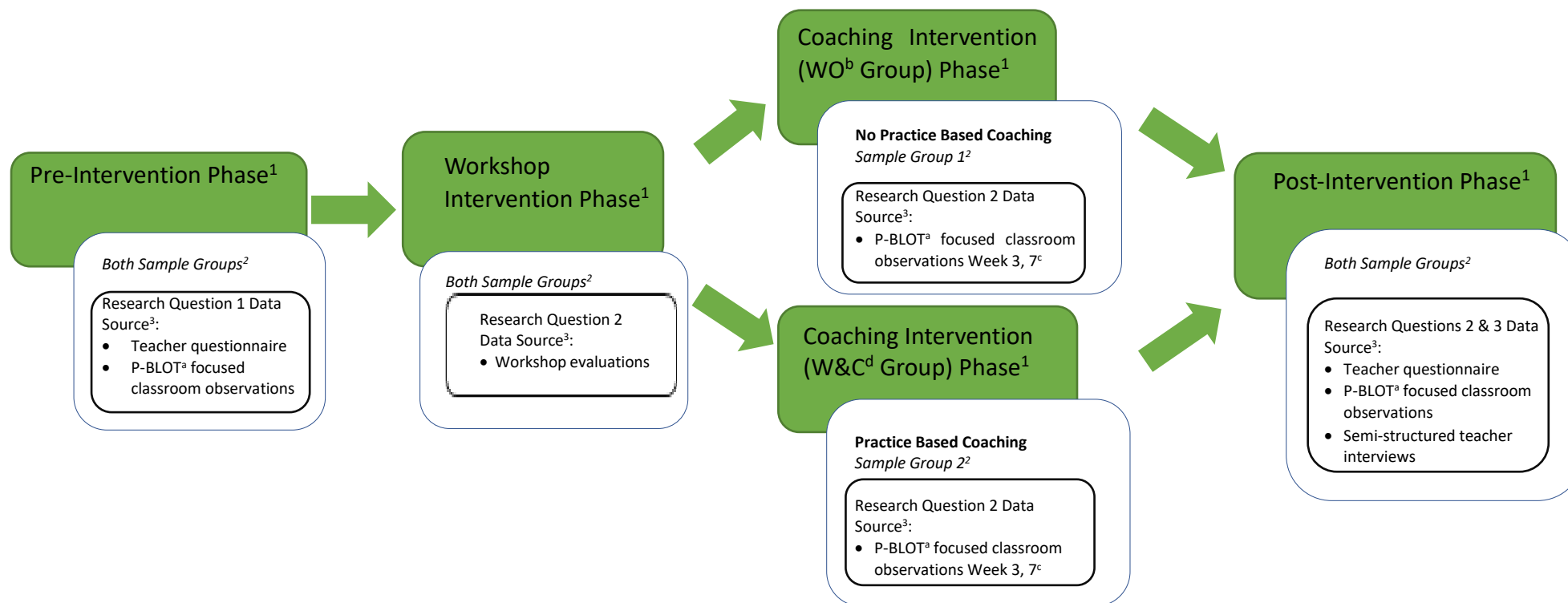


Figure 3.1. Study design phases, timing, data collection and participant involvement

Note. ¹Research design phase. ²Population sample involved. ³Data collection source. ^aP-BLOT = Play-based Learning Observation Tool. ^bWO = Workshop Only Group. ^cWeek 3, 7 = three weeks and seven weeks from the start date of the coaching intervention phase. ^dW&C = Workshop & Coaching Group.

Qualitative data were collected through teacher questionnaires, workshop evaluations, and semi-structured teacher interviews. Each of these data collection methods is outlined further below. The teacher questionnaire was given to all teachers at the pre-intervention phase and post-intervention phase. During the workshop intervention phase, evaluation forms, structured as questionnaires, were given to all teachers in both sample groups. During the post-intervention phase, semi-structured teacher interviews of both sample groups were also conducted.

Quantitative data were gathered during the pre-intervention, coaching intervention, and post-intervention phases of this study, primarily in the form of focused classroom observations. These observations were conducted using the Play-Based Learning Observation Tool (P-BLOT), a researcher designed observation tool. The construction, format, and use of this tool will be discussed in further detail later in this chapter. Focused classroom observations occurred once for all teachers in both sample groups during the pre-intervention and post-intervention phases. During week three and week seven of the coaching intervention phase, two focused classroom observations of all teachers in both sample groups were conducted.

Table 3.1 provides further description of these phases, the data collection methods, purpose, analysis, and timing of the phases across the length of the study.

Table 3.1

Research Design Phases, Data Sources, Purpose, Timing of Collection and Analysis

Purpose	Data Source	Collected With	Phase Timing	Analysis	Informs RQ ^b
Identify teachers' perspectives, knowledge and self-reported use of teaching through play pedagogy	Teacher questionnaire	Survey Monkey (online web software)	Pre-data collection phase Post-data collection phase	Descriptive statistical analysis	1 and 3

Determine extent of evidence of effective teaching through play practices applied in study classrooms	Focused classroom observations	P-BLOT ^a	Pre-data collection phase	Descriptive statistical analysis	2
			Coaching intervention phase: week 3 and week 7	Computational analysis of Interobserver reliability	
			Post-data collection phase		
Identify teacher perspective on the impact of the intervention on their practices and knowledge	Workshop Evaluation	Written questionnaire, administered face-to-face	Workshop intervention phase	Descriptive statistical analysis	3
	Semi-structured teacher interviews	Semi-structured interview protocol, audio recorded, transcribed and verified	Post-data collection phase	Thematic coding and researcher analysis	
Determine teacher belief and knowledge of teaching through play	Semi-structured teacher interviews	Semi-structured interview protocol, audio recorded, transcribed and verified	Post-data collection phase	Thematic coding and researcher analysis	2

Note. ^a P-BLOT = Play-based Learning Observation Tool. ^b RQ = Research Question

Participant Recruitment

Two primary schools, with diverse student populations, were initially approached to participate in this study. Both schools had indicated an interest in developing a teaching through play approach in their school environments, with each school having at least one or two teachers beginning to inquire into and investigate the use of teaching through play practices within the junior area of their school.

The principals from both schools were approached by the researcher with an invitation to participate and provided with an information sheet regarding the project. Appendix B is a reproduction of this information sheet. The information sheet outlined the aims of the project, the framework of the professional development approach and the risks and benefits to any participant's involvement. Once each school principal had given initial consent for their school to be involved, three teachers from School A and four teachers from School B,

all of whom were teaching students within the years 0–3 area of the school, volunteered their participation in this study. All of the teachers who volunteered had either begun to implement some teaching through play practices in their classrooms, or were curious about the use of play as a pedagogical tool within the primary setting. Each teacher was provided with an individual information sheet (see Appendix C) outlining the aims of the project, the professional development approach, and the tasks that the teachers would be required to engage in. A second information sheet (see Appendix A) specifically detailed the processes of practice-based coaching, ensuring, should the teachers be selected for the coaching phase of the intervention, they understood the process of practice-based coaching intervention. Given teacher participation was voluntary, it was made clear that while the school had committed to its involvement in the study, individual consent from each teacher was also required. It was made clear that, if a teacher chose not to participate or to withdraw, this would not impact on the participation of other teachers.

All seven teachers agreed to participate in the study by signing the Teacher Consent Form (Appendix D). However, soon after consent was provided by all teachers, one teacher from School A withdrew from the project for significant health concerns. School A did not have another teacher available to participate in the study who met the criterion of teaching year 0 to 3 students, so it was agreed to continue to work with the remaining two School A teachers. Shortly after this event, a teacher from School B, who had initially consented to participate, resigned from their role at the school and took a position elsewhere. As a result, another teacher was identified as meeting the criteria for involvement in the study and their consent was obtained to participate as a replacement to the teacher who had left the school.

The Participants

Of the six teachers who participated in this study, one had a bachelor's degree, two had teaching diplomas, and three had both bachelor degrees and teaching diplomas. Teaching experience ranged from 6 to 35 years in the classroom. The teachers who participated in the study volunteered their participation as they were interested in developing further knowledge and skills in the use of play within their primary setting. Those with extensive classroom experience teaching junior students were familiar with previous education policy and

practices that utilised aspects of play and developmental theory and expressed a desire to learn how these may be integrated into the modern classroom.

The Setting

The study was conducted with teachers from two primary schools both situated in the Hawkes Bay region of New Zealand. School A, a decile one, had a roll of 135 children, from years 0–8, consisting of 52% Pacific Island students, 43% Māori, and 5% European. School B, also a decile one, had a roll of 334 children from years 0–8, consisting of 24% Pacific Island students, 72% Māori, and 4% European. At the time of school recruitment, School A had committed to a future large scale redesign of the school playground and layout to better reflect their interest in modern-learning approaches, including learning through play. School B, at the start of the study, had recently appointed a new principal who was recognised for their previous work in a school implementing teaching practices that included play-approaches.

Schools were randomly assigned to one of two possible conditions: workshop only PLD and workshop and coaching PLD. School A, consisting of two teachers, was assigned to the workshop only PLD condition and given the group name 'Workshop Only' (WO). School B, which included four teachers, was assigned the workshop and coaching PLD condition and given the group name 'Workshop and Coaching' (W&C). WO and W&C will be used to refer to these sample groups for the remainder of the study outline. The random assignment occurred after the implementation of the workshop phase. It was decided that assigning a school to the coaching condition prior to the completion of the workshop PLD, in which both groups participate, may influence the way in which teachers engaged in the material during this phase and the way the researcher may deliver information to one group or the other. Therefore, both groups and the researcher participated in the workshop PLD without the knowledge as to who would receive coaching and who would not. Random assignment occurred at the conclusion of the workshop phase, and each school group was notified of the outcome before the coaching phase commenced.

The Interventionist

I held a dual role in this study as both researcher and interventionist/coach. As interventionist and coach, I presented the workshops and completed the coaching sessions. As researcher, I conducted all data collection, pre-, during and post-intervention. At the time of the study, I was a New Zealand registered teacher, and in addition, hold a Bachelor of Education (Teaching Primary) and a Master of Education, with over 18 years experience working in the primary education sector as a classroom teacher, specialist teacher, and behaviour advisor. In my previous role as a Resource Teacher of Learning and Behaviour, I had trained and become accredited in delivering professional development workshops, supporting teachers to implement effective teaching practices within their classroom settings. In my current practice, I provide workshops and in-school consultancy support to primary teachers implementing teaching through play practices in their classrooms around New Zealand.

The potential subjective position I held as both interventionist and researcher, as well as my current employment with a PLD provider focused on delivering teaching through play PLD in New Zealand, was considered during the research design process. My knowledge and experience was weighed against this subjective position and deemed to be beneficial to the components of the research conducted (Abbot & Bordens 2011; Dane, 1990). In addition, interobserver agreement procedures for data collection and ongoing reflective discussions with supervisors were used to verify data collected and subsequent findings and supported my research practices to balance and operate within the bounds of the dual roles I held during the study. These procedures are discussed in further detail later in this chapter.

The Workshop and Coaching Interventions

The study examined two PLD approaches: workshop only PLD and workshop and coaching PLD. As outlined earlier, all participating teachers were combined for the workshop portion of the PLD. This intervention phase consisted of a series of four interactive workshops. The workshops involved the introduction of the theory, evidence, and practices of teaching through play pedagogies within the setting of New Zealand Primary Schools. Teachers in School B also received practice-based coaching (PBC) focused on the implementation

of these practices within the classroom setting. The components of these PLD interventions will be discussed in further detail below.

Workshop intervention. Teachers from both school groups participated together in a series of four professional learning workshops. Each workshop was on average four hours in length and delivered across a six week period. The first two workshops were delivered fortnightly during the school week at a time that suited both school groups, with the last two workshops delivered during the school holiday break between Term 1 and Term 2. Two of the workshops were held on-site at School A and two were held on-site at School B. Workshop content was constructed on the basis of literature associated with the benefits of children learning through play, optimal teaching through play practices, New Zealand School Curriculum frameworks, and teaching practices and assessment practices in a play-based setting. Each workshop had a defined set of learning outcomes for the teachers involved. A summary of the content and learning outcomes can be viewed in Appendix E. Teachers received resources and handouts and digital access to all course notes and additional readings at the conclusion of each workshop. They were also required to complete set homework tasks, usually in implementing or observing identified practices in their classrooms in the intervening time between each workshop. At the beginning of each workshop, teachers were asked to feed back to the group their observations or the outcome of their homework tasks.

Coaching intervention. Following their participation in the workshop intervention, School B participated in the coaching phase of the study. Table 3.2 below summarises the components of these coaching sessions. Coaching involved fortnightly coaching sessions for twenty weeks in total. These coaching sessions followed the PBC model utilised by the Embedded Instruction for Early Learning Project (Snyder & the Embedded Instruction for Early Years Project, 2017) and modified to include teaching through play practices, with permission from Dr. Patricia Snyder. The components of the coaching model included a welcome meeting, session one, sessions two–eight, and a closing meeting. The PBC procedures described in further detail below are consistent with recommendations from the PBC coaching protocols and manual (Snyder, McLean, Shannon, & McLaughlin, 2017).

Table 3.2

Coaching Intervention Sessions Received by Coaching Group

Session Number	Purpose of Session	Recommended Session Length (range in minutes)
Welcome Meeting	Participant Information Provision Teacher Strengths & Needs Assessment	30–60
One	Focused Observation	90–120
	Debrief	30–90
Two – Eight	Focused Observation	60–90
	Debrief	20–60
Closing Meeting	Debrief Only ^a	30–90

Note. Recommended Session Length as stipulated in the practice-based coaching protocols. ^aSession Nine does not require an observation component to the session. Sessions fortnightly, unless in conflict with events such as school holidays, significant school events.

Welcome meeting. The welcome meeting provided me, as coach, with preliminary information about the teacher's classroom and routines. During the meeting, the teacher was provided with further information about the PBC process and was offered the opportunity to seek clarification around this intervention phase. Each teacher was provided with the teacher strengths and needs assessment form (Appendix F) and asked to review the practice implementation checklists (Appendix H). The practice implementation checklists were given to teachers at the conclusion of the final workshop, to support the teachers to identify areas of strength and need in their teaching practices prior to the first coaching session. At the conclusion of the welcome meeting, each teacher was sent an email outlining the information discussed. Teachers were encouraged to respond to the email with any further questions they may have had.

Session one. Prior to the first session of coaching, guided by the reasearcher-designed P-BLOT (Aiono & McLaughlin, 2018), in my role as coach, I completed a focused classroom observation, 90 minutes in length, and used information from this observation to complete the coach strengths and needs assessment (Appendix F). A full description of the P-BLOT observation tool is provided further in this chapter. My use of the tool for coaching was more flexible and formative than the summative use for data collection. Moreover, coaching observations did not contribute to the data analysed for this study and all observation data collected

for coaching purposes were kept separately from data collected for the purpose of monitoring the effectiveness of the intervention study. The focus of data collected in my role as coach was to inform the individual coaching process with each teacher involved in the coaching intervention. During the follow-up 60 minute debrief meeting, identified as session one, the teacher and I collaboratively analysed the teacher strengths and needs assessment and the coach strengths and needs assessment in order to set a goal and formulate an action plan. The goal reflected a desired practice identified by the teacher, and was crafted with guidance and support from me. The action plan consisted of the agreed upon goal and criterion, steps, resources, and associated timeframes in achieving this goal. An example of the structure of the action plan can be found in Appendix I. At the conclusion of the debrief meeting, the coach emailed the teacher a copy of the action plan, coach strengths and needs assessment, and additional resources discussed during the meeting. The teacher was encouraged to respond to the email with any questions they may have as a result of the meeting. An example of this email format can be located in Appendix J.

Sessions two–eight. After the establishment of the action plan in session one, I continued to complete classroom observations and debrief meetings with each of the four teachers on a fortnightly basis. These observations were 60 minutes in length, with the debrief meeting occurring for 30 minutes. This was only interrupted with school holiday breaks and, on one occasion, the ill-health of one of the teachers, resulting in the postponement and rescheduling of a coaching session. During these sessions, I employed a variety of coaching strategies, during observations and debrief meetings, to support each teacher's progress towards their established action plan goals. These strategies included the provision of supportive, constructive and reflective feedback, modelling, side-by-side verbal or gestural feedback, the provision of graphic feedback, and/or the video recording of the teacher in their classroom for review in the debrief meeting. All four teachers of School B participated in seven further individual classroom observation and debrief sessions (i.e., sessions two-eight) in which the teacher and I discussed the outcome of the observations, progress towards the identified goal in individual action plans, and support required to achieve these goals. At the conclusion of the session, I emailed the teacher copies of the action plan and observation notes, as well as any additional resources

discussed during the debrief meeting. The teacher was then encouraged to respond to the email with any questions they had as a result of the coaching session. During each session, I completed a coaching log, to record coaching procedures used during observation and debrief, coaching strategies, start and finish times of observation and debrief, length of each session, and any unusual factors that may have interrupted the coaching process.

Closing meeting. In the final session, the Closing Meeting, I met with each teacher individually, and reviewed a summary document outlining the progress each teacher had made during the coaching phase of the project. Each teacher's current goal was reviewed and suggestions were made for their future teaching through play practices post-project involvement. The closing meeting was celebratory and strengths-focused, highlighting the work the teachers had done in implementing the teaching strategies identified during the project. The closing meeting was 60 minutes in length and following the meeting I emailed each teacher with a digital copy of the summary document and a copy of the revised action plan discussed at the meeting. Teachers were thanked for their participation in the study and encouraged to continue with their play practices post-intervention.

Fidelity of coaching. The PBC model provides a series of protocols for those who want to engage in an evidence-based coaching process with educators (Snyder et al., 2015). The core components of the model were developed, validated, evaluated, and refined by Dr Patricia Snyder and colleagues through the Embedded Instruction for Early Learning Projects, at the Anita Zucker Centre for Excellence in Early Childhood Studies with the University of Florida. The 2017 California project version of the PBC protocols and materials were used in the present study. With permission from Patricia Snyder, the protocols and materials were adapted by replacing embedded instruction, as the focus practice, with teaching through play practices. These practice-content changes resulted in materials that reflected the practices related to teaching through play pedagogy, while maintaining structural and process features of PBC. As noted above, a coaching log was used to record procedures completed in each session. Fidelity of coaching implementation will be reported further in the results section.

Coach training. Prior to the commencement of the study, I visited the Anita Zucker Centre for Excellence in Early Childhood Studies at the University of Florida and participated in PBC introductory sessions. This visit was followed by participation in a full-day coach training session in New Zealand with my supervisor, a facilitator of PBC training for the California Project and in New Zealand. The training focused on identifying and discussing key components of PBC and how these differ from other coaching models. Coaching strategies, characteristics of collaborative partnerships, and the importance of conducting focused observations based on the goal identified in an action plan was also discussed. During this training I practiced developing shared goals and action plans, reviewed strategies for facilitating reflection and feedback, and discussed how the key components of PBC would be used within the context of this study. Coaching protocols were reviewed during the training and discussed within the context of the current study.

Once the coaching phase was underway, I video recorded a session 3 debrief meeting for review by the PBC trainer/supervisor. The coaching session and the written coaching protocols, including emails to teachers, were reviewed and feedback was provided to me. The video review identified, in general, that the coaching process was being followed with fidelity, with minor improvements needed to strengthen the coaching process. These improvements included refining the succinctness of some questioning to ensure a focused discussion with the project teachers during this meeting. In reviewing the follow-up email sent to teachers at the conclusion of the debrief session, changes were made in the email structure to better align the format to the PBC email response protocols.

Data Collection

Given the aim of this study is to measure the impact of PLD approaches on teacher beliefs, perspectives, and teaching through play practices, this section outlines the way in which data were collected to identify this impact. As outlined earlier, the study employed a mixed methods intervention research design, collecting both quantitative and qualitative data across the sequential phases of the intervention. Of note is the creation and use of the researcher-designed Play-Based Learning Observation Tool (P-BLOT) to guide focused classroom observations at each intervention phase. This section will elaborate on the development, piloting,

revising, and use of the research edition of the P-BLOT to collect the quantitative data for this study, focused on the teaching practices of the participants. The development, piloting and use of qualitative data collection tools, including the teacher questionnaire, workshop evaluation forms, and semi-structured teacher interviews will also be outlined further in this section.

Quantitative data collection. With the focus of this research investigating the impact of an intervention on teacher practice and beliefs, as researcher, I was presented with the challenge of identifying appropriate data collection methods to measure this impact. The use of an observation measurement tool is commonly identified as an appropriate way to identify and quantify changes in teaching practices (Allen, Pianta, Gregory, Mikami, & Lun, 2011; Hill et al., 2012). Observational methods have an advantage over self-reported approaches, as data is collected in real-time, rather than relying on teacher reporting (Craig, Pepler, & Atlas, 2000; Martin et al., 2010). Examples of observation measurement tools include the Teacher Pyramid Observation Tool (T-POT), which is used to identify and implement effective practices for supporting young children's social-emotional competence (Snyder, Hemmeter, Fox, Bishop, & Millar, 2013); and the Classroom Assessment Scoring System (CLASS), which measures teacher-student interaction in classroom settings (Downer, Booren, Lima, Luckner, & Pianta, 2010). Within the New Zealand context, the Te Kotahitanga Project (Bishop, Berryman, Tiakiwai, & Richardson, 2003), discussed extensively in Chapter Two, demonstrates the application of observational measurement within a Te Ao Māori (Māori world-view) context through the use of the Effective Teacher Profile (ETP), used to identify key practices associated with culturally relevant teaching that supported Māori learners in the high school setting. For the purpose of this study, the development of a new observation tool was deemed necessary as the current tools available were not focused on teaching practices associated with play in the primary setting, nor did they reflect a New Zealand classroom-based context. The need for a clear set of evidence-based teaching strategies focused on teaching through play practices and a way to measure them was required (Hill, Charalambous, & Kraft, 2012; Hill & Grossman, 2013). The researcher-developed direct teacher observation instrument, the P-BLOT (Aiono & McLaughlin, 2018),

was designed to observe and track changes in teachers' practice within a New Zealand primary-school play-based classroom environment.

Construction of the P-BLOT. Following recommendations for measure development (Crocker & Algina, 1986), a detailed review of the literature associated with the features and characteristics of play-based learning practices enabled key teacher behaviours to be identified as a source for the practice indicators (i.e., items) outlined in the P-BLOT. A significant number of practices were identified during this process, many of which were, interconnected with associated items identifying effective practice models of teaching and learning. Initial drafts of potential items were lengthy and required refinement and integration of some items, to make the tool manageable in its use. Items were defined in terms of the learning environment and teacher behaviour, with remaining items falling into the general section of overall judgment areas. A fourth area, practices deemed contradictory to those linked with successful play-approaches, was identified as an important area to also include in the tool. These were practices that ran counter to the constructivist underpinnings teaching through play followed and were identified as having a potential negative impact on the implementation fidelity of evidence-based teaching through play practices.

Following the identification of the potential items, the following sequence occurred:

1. Identification of each key item suitable for inclusion in the P-BLOT.
2. Identification of key terms used in relation to these items, and the construction of a working definition of these terms.
3. Generation of a definition of each key item (e.g. what this looks and sounds like).
4. Refinement of items into key practice categories (domains) and the adoption of a five-point scale for measurement of these items.
5. Identification of key practices associated with the scoring of each key item. The use of a five-point scale required identification of observable teacher behaviours or environmental items indicative of a score of 1, 3 or 5 associated with level of evidence observed for the practice.

These were identified as little evidence, developing evidence and strong evidence, respectively.

P-BLOT development and testing. Further development of the pilot version of the P-BLOT involved review and editing by supervisors and initial field testing in primary school classrooms. The pilot version of the P-BLOT had the following structure:

- 24 items reflecting the characteristics associated with teaching and learning through play pedagogies.
- Seven items representing features of learning environments constructed by teachers implementing teaching and learning through play pedagogies.
- Eight items that ran counterproductive to the pedagogy associated with teaching and learning through play.

The tool was field-tested across three schools in Hawkes Bay with seven teachers giving permission to complete pilot observations in their classrooms. These schools were schools not involved in the study. Teachers involved in this process were selected for their broad range and experience of implementing teaching through play practices, with four teachers having little to some play experience, and three teachers with significant play experience. Further refinements were made during this process, focusing primarily on clarity of terms and ease of use. Photo examples were included in items requiring visual examples of learning environments. Key definitions were added and the guidelines for use were constructed and refined. Scoring procedures were identified and a scoring sheet compiled to assist observers to score their observations succinctly and to analyse the results with ease.

P-BLOT research version. As a result of this testing, the research version of the P-BLOT was finalised (Aiono & McLaughlin, 2018), with teacher behaviour items reduced to 15, features of learning environment items remaining at seven, and nine overall teacher judgment areas of practice included. Eight items remained as identifiable counter-productive practices to those of play-based pedagogies. These items were organised into four key areas of practice, referred to as domains, namely: learning environment, teacher behaviour,

overall teacher judgment areas (teacher practice), and counterproductive practice. Key definitions, implementation processes, scoring guides, training and interobserver agreement (IOA) procedures are also provided in the final version.

Use of the P-BLOT. The P-BLOT is completed by a trained observer based on a 3-hour observation of a primary school classroom and a 10–15-minute interview with the teacher. While the P-BLOT can be completed in both single teacher and multi-teacher classroom environments, scoring of the observation is undertaken based on an individual teacher's practice. The observation period includes both teacher-directed (e.g., guided reading, writing, and/or maths) and student-directed learning activities (e.g., learning through play) as well as both indoor and outdoor learning within the scheduled school timetable. Exceptions to these included mealtimes (morning tea and lunchtime breaks) and instances of whole-school or large group meetings (i.e., school assemblies and sports events).

Observers administering the P-BLOT are provided with a scoring guide to support the way in which they score items observed on the measurement tool. A significant portion of the items in the P-BLOT are scored using observation-only scoring, however, 10 items require the observer to use information shared by the teacher during the follow-up teacher interview along, with their observation notes, to inform their scoring. Scores are identified against a 1–5 rating scale. This scale is based on evidence of the item observed during the data-collection period, with 1 being little evidence observed, 2 emerging evidence, 3 developing evidence, 4 adequate evidence, and 5 being strong evidence observed. The fourth domain, counterproductive practices observed, requires a yes or no response by the observer, indicating the presence or absence of the items in this domain. The P-BLOT scoring guide provides clarification of what this evidence may be, along with examples of such evidence where necessary.

At the conclusion of the focused observation and interview period, the observer completes the summary of observation scoring sheet (see Appendix K). Scores can be calculated in several ways. Individual domain scores from Part A, B and C are averaged to identify a score of between 1 to 5 for each identified domain. This can assist in determining which overall domain areas are a strength in teacher practice, or an

area of need. The presence of counterproductive practices (Part D) are totalled and scored numerically, indicating a strong presence of counterproductive practices, through to low or no presence of these practices. Finally, a total overall score of observed practices is calculated by totalling all items scored from Parts A, B and C, and calculating the average of these item totals. This provides a final score between 1 and 5.

Validity and reliability of quantitative data. Validity of the scores from the P-BLOT were strengthened through iterative development processes throughout the piloting of the tool and in consultation with my supervisors. Given the observational nature of the tool, the use of interobserver agreement to ensure score reliability is discussed further, below.

Interobserver agreement for observational measures. Observer accuracy and reliability can be influenced by a number of variables (Kazdin, 1977, 2011). These variables can include drift from the original behaviours being observed, the complexity of the research tool being used, and characteristics of the observer and the setting in which the observation is being undertaken (Wasik & Loven, 1980). To ensure consistency and accuracy of observational data collected, a second observer was trained in the use of the P-BLOT and conducted interobserver agreement checks across 30% of each data collection phase.

Interobserver selection. The second observer was selected for her knowledge and experience in implementing teaching through play practices in the primary classroom. A primary trained and registered New Zealand teacher, with over thirty years teaching experience, she had extensive knowledge of the school system, classroom and teaching practices, and had spent over half her teaching career teaching through play. She had held various leadership positions, including Deputy Principal and Acting Principal, and was experienced in observing teaching practices as a result of these positions held. She is now involved in providing ongoing professional development to teachers wishing to implement teaching through play practices at the primary classroom level.

Interobserver training. Those in the second observer role, when using measurement tools for observation, can be prone to several types of rater error. Rating errors can impact on the accuracy of the score and therefore the reliability of the tool being used (Wolfe, 2014). Training the second observer in the use of the

measurement tool serves to address this potential impact and increases the reliability and accuracy of the measurement tool scores (Hansen, Madsen, & Sorensen, 2016). The training process first required the second observer to become familiar with the administration of the P-BLOT. This involved reading the manual and engaging in a training conversation with me, in my role as researcher. This was followed by four classroom observations conducted alongside me, in which I scored the observation and discussed this with the second observer as the scoring occurred. This discussion involved revisiting key definitions within the scoring guide to ensure understanding and identifying examples of practices associated with items observed. The classrooms observed were selected for their wide range of teaching through play practices to enable the items of the P-BLOT to be tested under observation. Two of the four classrooms observed were identified by me as well-known for their strong play practices. This enabled me and the second-observer to discuss variations of scoring when observing complex teaching through play practices.

At the conclusion of the four initial classroom observations, a further four classroom observations were conducted to establish interobserver agreement rates. Again, these classrooms were selected for their varied play practices, with one having little to no play occurring in the classroom programme, through to two implementing significant and complex play programmes. The third classroom was identified as developing teaching through play practices. During these observations, the second observer and I sat apart and did not communicate throughout the length of the observation conducted, scoring our observations independently of each other. At the conclusion of the observation period, the second observer and I completed the inter observer agreement (IOA) form (Appendix L), to determine the percentage of agreement across each observation. Agreement on an item was achieved when scoring was within 1 point of each other. IOA was calculated as agreement within one point and acceptable levels of agreement were established at 80% or above. After agreement was consistently reached (i.e., at least 4 concurrent sessions at 80% or above agreement), the training period was concluded and the second observer was ready to participate in the study.

Qualitative data collection. While the quantitative data collection methods discussed above enabled identification of the rate and frequency of change in teachers' practices throughout the intervention process,

qualitative data collection supported the identification of pre- and post- teacher beliefs and perspectives on teaching through play practices. The inclusion of qualitative data collection methods contributed to understanding the quantitative data related to the participants' observed teaching practices. These qualitative data sources included teacher questionnaires, workshop evaluations, and semi-structured interviews, and are discussed further in the following section.

Teacher questionnaire. Questionnaires enable researchers to measure knowledge, attitudes and beliefs, and values and preferences (Tuckman & Harper, 2012). As such the teacher questionnaire used in this study was administered to gain information about the teachers' beliefs and perspectives on teaching through play.

Construction. Initially the questionnaire was constructed to include over 70 statements related to what play is, the impact of play on children's academic learning and what teachers believe their role is within a play-based learning environment. A 5-point Likert scale was used, with 1 being strongly disagree through to 5 indicating strong agreement with the statements. Teachers were also asked to respond to five open-ended questions asking them to explain their current classroom environment and teaching practices. The impact of legislative policies, such as the Work Health and Safety Act (2015) and the National Standards (Ministry of Education, 2009a; 2009b), as well as school planning and assessment requirements were included in this first draft. One intention was to determine what barriers, or perceived barriers, teachers identified as limiting their ability to implement a teaching through play approach in their classroom.

Piloting the questionnaire. An initial draft questionnaire was piloted with five educators, selected for their previous and significant involvement in teaching through play, in which feedback was sought on the language used, comprehension, use of terminology, ease of navigation, and time spent on completion. Copies of the questionnaire were also sent to the project supervisors for their review and comment. Feedback received from this first pilot resulted in a significant reshaping of the questionnaire structure. The structure of the questionnaire was modified and as a result the number of questions were reduced to 20. Modifications included categorising questions into clear and related sections and defining terminology further. The use of logic in the

question responses was also added to ensure easy navigation of the software. A second pilot of the modified questionnaire was undertaken, and a further five educators and researchers from the Massey Early Years Research Lab (Institute of Education, 2020) provided feedback on this draft. From this feedback, the research version of the questionnaire was finalised (See Appendix M).

Research version. The questionnaire was constructed using Survey Monkey software and consisted of 20 questions, requiring approximately 25 minutes to complete. A 5-point Likert scale was used for four questions, requiring teachers to indicate their rate of agreement related to statements about learning through play at a primary level; about children's learning in play; resourcing and delivery of learning through play in the New Zealand context; and the impact of national education policies on their ability to teach through play in their classrooms. Teachers provided open-ended comments indicating their experience of teaching through play, their feelings or beliefs about play pedagogy, the teacher's role in play, enablers and barriers to implementation, and assessment practices in their classrooms. Teachers identified the frequency of their teaching through play practices; their confidence in its implementation; and the types of resources that were available to their students during their time in play. Teachers also indicated the way in which they taught the values and key competencies of the New Zealand School Curriculum.

Implementation. The questionnaire was administered to all teachers prior to the beginning of the workshop phase of the intervention and again at the conclusion of the project. All teachers completed the questionnaire at both data collection points. Teachers were emailed individually with a URL link to the questionnaire on Survey Monkey. Each teacher was provided with their own individual code, ensuring confidentiality should the online platform be compromised in any way. Teachers were encouraged to access the information independently, but reassured should they have any difficulty with the online platform to advise me, the researcher, and assistance would be available for them to navigate the software. All teachers completed the questionnaire at both pre- and post- data collection points in a timely manner.

Workshop evaluation. This written questionnaire was administered to individual teachers at the conclusion of each of the four workshops. Appendix N is an example of the evaluation used at the conclusion

of Workshop One. Using a 4-point Likert scale, ranging from strongly disagree to strongly agree, teachers were asked to indicate their agreement towards statements focused on workshop organisation, facilitation, relevance, and communication of workshop learning objectives. Teachers were also provided with an opportunity to provide short-answer comments, including identifying which areas of the workshop they found most helpful and least helpful.

The format and structure of the evaluations were adapted from similar workshop evaluations implemented by the Embedded Instruction for Early Years Project (2017). Questions and content were modified to reflect the focus of the teaching through play workshop content.

Semi-structured teacher interviews. At the conclusion of the project, all teachers participated in semi-structured individual teacher interviews with an independent interviewer. The use and selection of an independent interviewer, rather than the researcher, is elaborated on further below. Information gained through interviews can enable researchers to understand the opinions, motivation and experiences of those involved in a study, data difficult to collect through observation alone (Tracy, 2013). In the current study, the independent interviewer was provided with an interview protocol, with semi-structured questions, to guide the interview process. This protocol enabled the interviewer to question each participant on their experience of key areas of the study, while maintaining the flexibility to acknowledge individual responses as the interview unfolded (Tracy, 2013). Protocols used with the Embedded Instruction for Early Years Project (2017) were reviewed prior to the development of the interview protocol for this study. Informed by these Embedded Instruction protocols, two protocols were developed to accommodate the two groups of teachers: those who received coaching (W&C), and those who did not (WO). A copy of the interview protocols can be located in Appendices O and P. Both groups of teachers were asked questions focused on teacher confidence and perspectives on the use of play as a teaching and learning tool in their classrooms, the observed outcomes for their students, and the enablers and challenges in implementing this pedagogical approach. They were also interviewed regarding their experience and perspective of the workshop phase of the intervention, the value they placed on the content of the workshops, and its impact on their practices. Those teachers who participated in the coaching intervention

of the project were also asked questions about their experience with the coaching model and its impact on their teaching through play practices.

The interviewer. Due to my dual role as researcher and interventionist/coach, it was identified that participants may not feel able to speak freely about any concerns or challenges they had experienced during the intervention. I had built a positive relationship with those receiving the coaching intervention, and in discussion with my supervisors, it was agreed this may impact on feedback received during the interviews (Harding, 2013; Hennink, Bailey, & Hutter, 2011). Thus, the interviews were conducted by a PhD student not associated with the study, and unknown to the participants, but selected for her knowledge of PBC and teaching through play practices, along with her prior experience conducting interviews (Kvale, 1996; Tracy, 2013).

Data Analysis

At the completion of the intervention, and the collection of post-intervention data, the analysis of all data collected began. This analysis was organised in relation to each of the three researcher questions outlined earlier in this chapter, and is discussed in further detail below.

Research question one: Teaching through play beliefs. This research question sought to identify the beliefs and perspectives of all teachers involved in the study, regarding teaching through play pedagogies prior to participating in the intervention. As such, teacher questionnaire data collected during the pre-intervention phase were analysed to identify teachers' beliefs and perspectives. Given the small sample size, data were downloaded from Survey Monkey, transferred to a spreadsheet, and checked for accuracy. Data were then analysed using descriptive statistics to identify beliefs and perspectives across both teacher groups. The outcome of this analysis is detailed further in the results chapter of this study.

Research question two: Teaching through play practices. Descriptive statistics (i.e., mean score, standard deviation, change scores) were used to compare the impact of the intervention on teaching practices from pre- to post-intervention (Abbott & Bordens, 2011; Kazdin, 2011). Change scores represented the difference in teachers' P-BLOT scores between pre- and post-intervention (i.e., post-intervention score–pre-intervention score). Using the P-BLOT, classroom observation data was collected at four collection points over

the course of the study for this purpose. These collection points were pre- and post-intervention, as well as during week three and week eight of the intervention phase. The additional collection points during the intervention phase enabled the examination of trends in teacher implementation over time as well as pre- and post-intervention. Data gathered using the P-BLOT during classroom observations was entered into a Microsoft Excel format in preparation for analysis, and then graphed to view trends in teacher practices across the P-BLOT sections. Questionnaire data that identified responses related to specific teacher practices were downloaded from Survey Monkey and, along with the observation data collected, transferred to spreadsheets, and checked for accuracy. At the conclusion of the post-data collection phase, both questionnaire and observation data collected were analysed using Microsoft Excel, and summarised in table and graph format.

Research question three: Teacher involvement in the PLD intervention. Thematic coding analysis was used to analyse the data collected from the semi-structured teacher interviews at the conclusion of the study. Transcripts from the audio interviews were obtained via a transcription service and responses from WO teachers and W&C teachers were analysed separately. As the researcher, I conducted the thematic analysis, with both supervisors actively involved to support the testing of ideas, codes, and themes as they emerged. An interactive analysis approach was applied to the coding of the transcripts of the interviews. This approach attempts to identify a person or constituency's truth as they have constructed it within the context of their own experience, understanding, and use (Northcutt & McCoy, 2004). The process used inductive coding, drawing on codes as they presented themselves in the data, rather than codes established a priori. The process was iterative and involved a review of the transcripts. Patterns of phrases and statements made by the teachers were assigned codes. As multiple passes of the interview data occurred, coding patterns were reviewed to support the identification of emerging themes and insights from the participants' reflections on their involvement in the study (Tracy, 2013). Teacher responses were initially categorised into general areas including:

1. Involvement in the workshops
2. Receipt of coaching

3. Participation in the PLD intervention and the impact on their teaching
4. Impact on students
5. Barriers or challenges experienced during the PLD
6. Components of coaching received specifically by the W&C group.

Emergent themes within these categories were identified, with subsequent reviews of teacher responses with common patterns of thinking identified in relation to the teachers' teaching through play beliefs and experiences. Using a word document, these themes were recorded in a table, and analysed for their frequency and relevance to the research question. In addition to common themes, differences between the WO group and W&C group were explored and tabled. Additionally, emerging themes related to the W&C group's experiences of the PBC model were established. Pertinent quotes were selected from individual responses during the interviews and drawn upon during analysis to support the thematic data collected.

Ethical Considerations

This chapter has described the research design, selection and engagement of participants, and collection and analysis of data. Throughout this research process, important ethical considerations were made to ensure the researcher behaved and interacted with the participants in a manner reflective of sound ethical conduct in the research field. Within the literature discussing the role ethics plays in school-based research, the assertion of a link between the quality of the research and its ethical application is well developed (Bryan & Burstow, 2018; Gorard & Taylor, 2004). In preparing to commence this study, consideration was given to key ethical issues, including informed consent, confidentiality, risk of harm, privacy, conflict of interest and the Treaty of Waitangi, as outlined in the Massey University Human Ethics Code (MUHEC) (2017). As a result, a low-risk ethics application was lodged with the Massey University Human Ethics Research Office and a subsequent approval letter was received by the ethics committee following this application (see Appendix Q). The key ethical issues addressed within this approved application will be discussed further in the follow sections below.

Informed consent. Drawing on the wider ethical principle of autonomy, the notion of informed consent is essential as it ensures both a trustworthiness and rigour to the research processes undertaken (David, Edwards, & Alldred, 2001). Trustworthiness and explicitness are identified as key ethical principles driving a researcher and their behaviour whilst engaged in research (Furlong & Oancea, 2005). If a researcher does not engage in trustworthy behaviour, or if they are not explicit in the research information they are seeking, the outcome of the research may be deemed untrustworthy and be called into question. As a result, clear informed consent processes are important in ensuring and maintaining trust between participants and the researcher. Participants, in order to engage with the researcher in a way that will support the research process, will be fully informed as to the focus, what they will be asked to do as participants, and how this may impact on their lives as a result (i.e., their teaching workload, time commitment and so on). For the purpose of this study, several points of consent were established to ensure participants understood what their involvement in the research meant. Initially, the school principals were provided with information sheets (Appendix B), outlining the scope and requirements of the research. As researcher, I met face-to-face with each principal to discuss this information further. Upon verbal consent issued by the school principal for the school to engage in the project, I was provided access to the staff and, in an initial meeting, presented an information sheet summarising the details of the study to the teachers (Appendix C). Teachers were given the opportunity to ask questions prior to consenting to participate. During this meeting, the importance of individual informed consent was reiterated for each teacher, and teachers were advised that the final decision to participate in this study was an individual, rather than a school one. Furthermore, it was made clear that, at any time throughout the study, teachers were able to withdraw their consent to participate.

Further points of consent were established as the study progressed. Upon their engagement in the teacher questionnaire during the pre-intervention phase, consent was acknowledged by the participants as they completed the online survey. In an introductory statement, teachers were assured the right to decline any questions asked of them in the survey and were reminded that their response to any of the questions indicated consent to participate as a result (Appendix D).

Finally, during the post-intervention phase, participants were provided with the opportunity to review transcripts of their audio-recorded interviews for accuracy, and consent to the release of this information for the purpose of the study (see Appendix R). Once again, this consent was to ensure the participants felt reassured the information they were sharing was being used for the purpose outlined in the initial consent processes, and that it accurately portrayed their participation in this phase of data-collection. Sachs (2007) states that “the quality of practitioner research rests upon the quality of the ethical dimensions that are understood and emphasised” (p.xiv). The ethical dimensions of trustworthiness and rigour were emphasised throughout the informed consent process, both with a desire to ensure participants were aware, at all times, of the nature of the research and their involvement within it, as well as support rigour of the study itself.

Privacy and confidentiality. This study enabled the researcher to build a trusting relationship with the participants and enter teachers’ classrooms to observe, intervene, and report on individuals and their teaching practices, beliefs and perspectives. Building on the underpinning principle of autonomy, confidentiality was central to this relationship between researcher and participant. Teachers, in consenting to participate and continuing their involvement throughout the study, were provided reassurance that the information collected about their individual teaching behaviours, beliefs, and perspectives would be kept secure, and limited to those authorised to access the information for the purpose in which consent was provided. At the commencement of the study, each teacher was assigned a unique individual code that was only identifiable to me and the research supervisors. These codes were used in all written records, including transcripts, coaching documentation, and presentation of findings. Consent forms and code documents were stored separately. Teacher video, taken during the coaching intervention phase, was used to review teaching practices during the debrief meeting only and once reviewed, was deleted from the device it was stored upon. Video obtained for fidelity review and feedback during session three of the coaching phase was collected by directing the camera at me, such that the teacher was not in view, although the teacher could be heard on the recording. This video was stored on my device and shared with the supervisor/trainer. At the conclusion of the fidelity review, the video was deleted and was no longer available to view by the supervisor/trainer. The second observer, interviewer, and transcriber

signed confidentiality agreements (see Appendix S and T), confirming they would not share identifying information regarding the participants of the study.

Privacy can be defined as “the control that individuals have over who can access and manage their personal information” (Massey University, 2017, p. 20). The strategies employed to ensure confidentiality of the participants were also intended to ensure the privacy of those involved. However, in reviewing the MUHEC (2017), I identified the potential for those outside of the study, such as the principal or the boards of trustees, to perceive the information gathered about teaching practices as data relevant to teacher review systems within the school, such as teacher appraisal or competency processes. As a result, it was made clear that any raw and individual data collected during the study would only be accessible to me, as researcher, and my supervisors. This was to ensure that teachers and principals clearly understood who had access to this information and what the data would be used for.

Digital data management. The access, management, and organisation of personal data held digitally is a growing area of relevance to researchers, given the convenience digital platforms have in supporting researchers with storage and analysis of data. In this study, digital data were collected only via the teacher questionnaire using the online platform Survey Monkey. Prior to commencing the questionnaire, teachers were advised of their unique identification codes, which they used to identify themselves online when completing the questionnaire. This procedure was also used when sending raw digital interview data to the transcriber. The digital interview data did not, at any time, reveal the personal details of teachers, with the interviewer referring to them by their unique code, if required, during the interview period. Finally, all classroom observation raw data were stored in paper-copy only, in a secure filing cabinet in my office.

Risk of harm. This study was designed as an intervention, and thereby sought to determine the impact an intervention would have on the teaching practices, beliefs, and perspectives of the participants involved. As such, consideration of both beneficence and non-maleficence principles of research was required. Avoidance of harm (non-maleficence), broadly, incorporates both physical and psychological harm, as well as impact on dignity, reputation, and relationship to others. The individual data gathered on the teaching practices of the

participants had the potential to highlight wider issues of teacher competency and skill. In maintaining the privacy and confidentiality of data collected on individual teachers (as outlined above), the potential impact to teacher reputation and dignity was considered to be low. Furthermore, there were no significant identifiable risks of physical or psychological harm to participants involved in this study. A smaller concern for the teachers involved was an increased workload and expectation placed upon them due to their participation in this study. Clear communication at the recruitment phase of this study, through the information letter and face-to-face meetings to discuss the aims, goals, and design of the study, enabled teachers to make informed decisions regarding the potential for increased workload. The right for participants to withdraw at any time also served to minimise any ongoing risk, and provided reassurance that withdrawing was an option if a teacher felt overwhelmed by their involvement and the balance of this alongside their professional workload and personal responsibilities.

While the focus of this study was on the practice and belief of the teacher participants, consideration was required as to the distal impact the research would have on the students of the participants. There was no reason to believe that teacher implementation of learning through play pedagogy would cause harm to their students. The pedagogy itself is supported extensively by research literature, demonstrating that learning through play may, in fact, have positive benefits for students. Teachers not involved in the practice-based coaching phase of the intervention were to continue to engage in status quo practice, which was also not associated with harm to children.

Beneficence principles require researchers to consider ways in which they may cause benefit to their participants as a result of participating in the research offered to them (Massey University, 2017). In this study, there was an intention to contribute to the teachers' practices, beliefs, and perspectives on play pedagogies, and as such the teachers were expected to benefit from this professional learning. PLD opportunities are accepted within the education sector as appropriate avenues for improving teacher practice. As such, teachers involved in this study engaged in standard practices by accessing new learning as a result of attending the PLD workshops and/or participating in practice-based coaching.

Justice. Applying practice-based coaching interventions to one, and not both groups within this study raised ethical issues of justice and the equal distribution of benefits and harms to the intervention participants. While there was little risk of harm foreseen to those participating in this study, there was the potential for the W&C teachers receiving practice-based coaching to benefit in their teaching practices, beliefs, and perspectives, as a result. Consequently, the WO group, upon the conclusion of the post-data collection phase of this study, was provided the opportunity to participate in practice-based coaching. This coaching intervention was not included in data used for the purpose of this study but was included to address the principle of justice and equal distribution of benefits to all participants involved.

Special relationships. Given the extent of my previous work within the Hawkes Bay education sector, it was anticipated that I would be known to the teachers involved in the study. When identifying schools to potentially engage in this study, consideration was given to the impact any special relationships I may have with either schools and/or individual teachers. A specific consideration was whether prior relationships could generate perceived obligations to participants. Special relationships, often held as a result of either the position of the researcher, or personal connection to those involved in the research, can influence the way in which a researcher behaves with their participants. For example, relationships can, at times, generate permission where it would not normally be obtained, or “render impermissible what would otherwise be permissible” (Massey University, 2017, p. 7). As a result, the schools approached for this study were those I had had minimal contact with during my previous work within Hawkes Bay. Furthermore, by following clear informed consent procedures, ensuring voluntary participation and the right to withdraw, and respecting those involved in the study by maintaining professional roles and protecting privacy, any conflict of interest with these schools and/or individual teachers was minimised. Participants were provided with my supervisors’ contact details. This meant participants could contact the supervisors if they felt they were unable to speak with me directly, regarding any aspect of the study. There were no financial interests associated with the outcome of this study, nor any sponsorship from external agencies.

Further consideration was required of my role as coach during the coaching intervention phase. As coach to the W&C group, I formed a special relationship with the participants from School B based on collaborative nature of PBC, as I implemented the coaching protocols for the purpose of the intervention. This relationship resulted in an obligation to ensure any information shared during these coaching sessions, such as teachers' values, beliefs, and practices, was respected. During the welcome meeting coaching session (i.e., the first meeting with the W&C teachers following the workshop intervention phase), my role as coach, in comparison to that of researcher, was clearly outlined. The way in which data were to be collected and stored for the purpose of coaching was also clarified. Furthermore, immediately prior to data collection points during the coaching intervention phase, I again made clear to the teachers which role I was in (i.e., coach or researcher), and the data I was collecting as a result. Finally, the impacts of the special relationships created between me, as coach, and participants during this intervention was acknowledged by the recruitment of an independent interviewer during the post-data collection phase. In discussions with my supervisors, I acknowledged the possibility that the participants may be more willing to provide a range of responses to the interviewer, or may feel unable to provide more critical responses, that did not support the study, if interviewed by me. The independent interviewer was not from Hawkes Bay, and was unknown to all the participants in the study, therefore, did not have a special relationship with anyone involved. It was anticipated that the participant responses elicited by the interviewer would be less likely to be influenced by any special relationships held between researcher and those involved in the study.

Treaty of Waitangi. As a New Zealand based research study, the principles of Te Tiriti o Waitangi serve to guide decisions made during the research process, ensuring a level of partnership, protection and participation afforded to New Zealanders as Treaty partners. While this study did not have an explicit focus on research outcomes for Māori, I remained cognisant of Māori ethical principles as I interacted with participants and operated within the New Zealand education sector, in two schools with high Māori and Pacific student populations. Relationships established during the study (whakawhanaungatanga) created a partnership between researcher and school, and researcher and individual participants, and enabled a

collaboration with teachers intent on examining their own teaching practices and beliefs. These relationships were guided by the clear purpose (tika) and aim of the research itself. As outlined earlier, in establishing clear processes to support those involved in the study, such as informed consent, recognising and minimising risk of harm, and maintaining privacy and confidentiality, a level of cultural and social responsibility (manākitanga) was upheld. This ensured positive partnerships were maintained between individuals and myself. Furthermore, as a teacher and educator, I am familiar with the cultural protocols and behaviours appropriate to working within the school setting, and ensured that these were maintained throughout my interactions at each school. Finally, as outlined earlier, there was a potential for the teachers involved to benefit in their teaching practices, beliefs and perspectives, as a result of their participation in this study. While not a focus of this study, it is acknowledged that any positive changes in teaching practices, beliefs and perspectives may, in turn, impact positively on the learning experiences of students. Through guiding practices and principles, such as ako (reciprocity of teaching and learning), mana and manākitanga (care and respect of the learners), and self-determination (student-led learning), teachers can facilitate equitable opportunities for positive student experiences and outcomes at school.

Chapter Summary

This chapter has provided an overview of the methods adopted in this study and described the ways data were collected and analysed to address the research questions posed. This study adopted a mixed-methods intervention design to investigate the impact two professional development conditions, workshop only and workshop and coaching, had on the implementation of effective teaching through play practices in the primary classroom setting. The creation of the researcher-designed Play-Based Learning Observation Tool and the use of the practice-based coaching model, including interventionist training and fidelity measures were outlined. Teacher questionnaire and interview data were collected on teacher beliefs about the use of play as a pedagogical tool, as well as the self-reported impact receiving or not receiving coaching made to the way in which teachers taught through play. Observational data were collected to determine the extent of evidence to which these practices were being established and the changes in

practice, pre- and post- PLD intervention, between those who were in the workshop only group and those in the workshop and coaching group. The analysis of quantitative and qualitative data was outlined, highlighting the relevance and timing of each data source in relation to the research questions and aim. Finally, an outline of the way in which ethical considerations were addressed throughout the study was provided.

Chapter 4

Results

Introduction

The purpose of this study was to investigate the impact of a workshop only and a workshop and coaching model of professional learning and development (PLD) to support the implementation of teaching through play practices in New Zealand primary school classrooms. This chapter summarises the results of the intervention conducted in this study in relation to the three research questions outlined in Chapter Three. In this results chapter, Section One addresses the beliefs held, and teaching practices used, by the participant teachers prior to the implementation of the teaching through play PLD and gathered through the teacher questionnaire and pre-intervention focused observation. Section Two provides the results of focused observation data gathered across the four phases of the PLD intervention, along with data collected post-intervention through semi-structured individual interviews and the post-intervention teacher questionnaire. Observation results from both intervention groups, workshop-only (WO) and workshop and coaching (W&C) are shared in this and subsequent sections. Also identified in this section are the Interobserver Agreement Results (IOA) in relation to the use of the Play-Based Learning Observation Tool (P-BLOT). Section Three shares further data on teachers' perspectives of their participation in the PLD intervention, including workshop evaluations and teacher interviews. Section Four outlines the implementation of coaching strategies regarding the fidelity of PBC protocols identified in the methodology chapter. Section Five summarises the main discussion points across all sections of this chapter.

Research Question One: Teacher Beliefs and Practices of Teaching through Play

This study sought to identify both the beliefs and practices of teachers engaging in teaching through play. As outlined in the methodology chapter, a teacher questionnaire was used pre- and post-intervention to gain an understanding of what teachers believed and knew about teaching through play, and the impact the PLD had on these beliefs. Pre-intervention, the questionnaire results indicated most of the teachers strongly agreed that children's learning within a play-based setting should be viewed by their developmental

stage, rather than their chronological age. Teachers also agreed or strongly agreed that children are intrinsically motivated to learn new things when engaged in play. Five of the six teachers disagreed with the notion that play-based learning was only suited for children transitioning to primary school from early childhood centres. There was also overall disagreement with the suggestion that it is difficult to manage children's behavior when implementing a play-based learning environment. In contrast, the teachers, on average, responded neutrally when asked if they felt there were higher incidents of conflict between children in a play-based setting. There was also neutral response by the teachers to the statement that children should be engaged in more formal learning in years two and three, with play restricted to break-times only. Finally, five of the six teachers indicated agreement to strong agreement when asked whether play remains necessary but becomes more sophisticated for children aged seven years and older.

As part of the questionnaire, teachers were provided with a list of potential barriers or challenges that may be seen to impede the effective implementation of teaching through play practices in their school setting. On average, teachers identified that resourcing of equipment, curriculum coverage, parents' negative perceptions and/or limited knowledge of learning through play, and any limitations of teachers' own knowledge and skills presented significant barriers to effective implementation. The physical environment of the classrooms, personal workload, costs involved, and visits by the Education Review Office were seen as occasional barriers to effective implementation.

Teaching through play practices. In order to investigate the participants' pre-intervention teaching practices, and the impact engaging in the PLD had on these practices, a series of classroom focused observations were undertaken. These focused observations occurred pre-, during and post-intervention. The classroom practices of each participant were observed and measured using the P-BLOT. Figure 4.1 shows the mean score of participants' teaching through play practices as observed in each section of the P-BLOT, and total score prior to the PLD intervention (pre-intervention phase). The mean P-BLOT score across all teachers prior to the PLD intervention commencing was 2.4 (SD = 0.60). Teachers

scored slightly higher in Section C (overall judgment areas such as management, planning and assessment practices) of the P-BLOT, with Section A (the learning environment) scoring lowest.

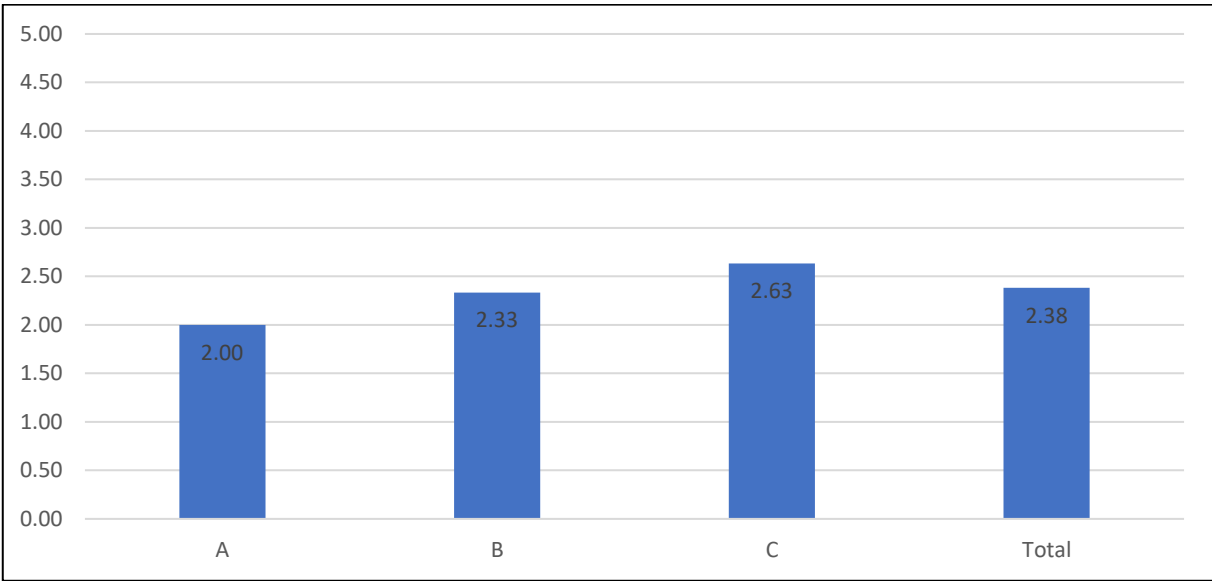


Figure 4.1. Participant teaching through play practices pre-intervention

Note. A, B, C = Section A (learning environment), B (teacher behaviour) & C (overall teacher practice of the P-BLOT). Total = Total mean score of all 31 P-BLOT indicators. Scores reflect the evidence of teaching through play practices identified by the indicators on the P-BLOT, with 0 indicating no evidence for the practice observed, through to 5 indicating strong evidence for the practice observed.

Table 4.1 outlines the individual scores for each teacher in the P-BLOT sections and total score. It shows the range of practices observed across all teachers, in the workshop only and workshop and coaching groups combined. Prior to the intervention, there was a variation of scores gathered through the classroom focused observations. Overall, however, pre-intervention scores indicated a low level of teaching through play practices.

Table 4.1

P-BLOT Individual Teacher Scores Pre-Intervention Sections A–C & Total Score

Teacher Code	Section A Score	Section B Score	Section C Score	Total Score
WO1	1.4	1.3	1.8	1.5
WO2	2.4	2.8	3.3	2.9
W&C1	1.5	1.8	2.5	2
W&C2	2.8	3.2	2.7	3
W&C3	1.7	2	2.5	2.1
W&C4	2.2	2.9	3	2.8

Note. WO = Workshop Only Group. W&C = Workshop and Coaching Group. Total Score = mean total of 31 P-BLOT indicators. Scores reflect the evidence of teaching through play practices identified by the indicators on the P-Blot, with 0 indicating no evidence observed, through to 5 indicating strong evidence observed.

In contrast to the focused observation data, when asked to describe their teaching practices in the teacher questionnaire, five out of six teachers reported they felt they were implementing teaching through play practices in their classrooms, but did not feel confident in doing so. The remaining teacher indicated she felt she was implementing teaching through play with confidence in her classroom. In describing their play-based learning environment five of the six teachers indicated children could choose their play activities during the school day, without direction, but with support from the teacher. One teacher indicated that children could choose their play activities during the school day, once they had completed learning activities set by the teacher. Most teachers indicated they felt they used a combination of either learning through play with whole class, mixed and streamed ability grouping. However, teachers indicated that learning through play was not used to support children's exposure to the learning areas of the NZC, rather, this was taught through mixed, streamed, and whole class teaching. Five of the six teachers indicated they felt that children were engaged in self-directed play indoors at least half or all the school day, every day. One teacher indicated that her students engaged in self-directed play daily, for one block of the school day. All teachers indicated that children were engaged in self-directed play outdoors, most frequently, for once a week.

Research Question Two: Impact of Professional Development, With and Without Coaching on Teacher Belief and Practices When Teaching Through Play

Following the collection of the data described above, the PLD intervention was implemented. This section describes the data collected to investigate the impact this PLD had on the beliefs of the teachers and their subsequent teaching practices.

Teaching through play beliefs. Prior to the intervention, one teacher from the WO group and four from the W&C group reported they were implementing teaching through play practices in their classrooms but did not feel confident in doing so. The sixth, and remaining, teacher indicated she was implementing teaching through play with confidence in her classroom. This teacher was assigned to the WO intervention group. At the conclusion of the study, both teachers who received the WO intervention reported no change in their levels of confidence post-intervention. That is, one WO teacher reported continued confidence and the other WO teacher reported a continued lack of confidence in implementing teaching through play in their classroom. All four W&C teachers reported increased confidence in implementing teaching through play at the conclusion of the intervention.

When asked to describe their play-based learning environment, both WO teachers and three of the four W&C group teachers indicated that the children could choose their play activities during the school day, without direction, but with support from the teacher. Prior to the intervention, one teacher in the W&C group reported that children were only able to engage in learning through play upon the completion of work set by the teacher. Post-intervention, this teacher indicated that her practice had changed, and that her children now were able to choose their play activities during the school day, without direction but with teacher support.

Pre-intervention, all W&C teachers and one WO teacher reported that their students were able to play both indoors and outdoors during instructional time (i.e., time excluding morning tea and/or lunchtime). However, the frequency of this play during instructional time was varied between all teachers. Opportunities for indoor play ranged from daily, during one block of the school timetable (one W&C group teacher), to half

the school day (two W&C teachers, one WO teacher) through to all day (one W&C teacher, one WO teacher). Outdoor play was also varied in frequency pre-intervention. Three teachers (two WO, one W&C teacher) indicated outdoor play occurred once a week, with the remaining W&C teachers indicating outdoor play occurred either once per block or occasionally during the week.

Post-intervention, all teachers in both WO and W&C groups indicated children were able to play indoors and outdoors during instruction time, with varied responses about the frequency of indoor and outdoor play during instruction time. Two of the four W&C teachers indicated that indoor and outdoor play during instruction time would occur at least half to all of the school day, every day. The other two W&C teachers indicated that indoor play would occur daily during one block of the day, and the opportunity for outdoor play was all day every day. The two WO teachers indicated their children were engaged in indoor and outdoor play for at least half a day to all day, every day.

Post-intervention, all six teachers reported an increased awareness that learning through play can be used to intentionally teach all areas of the curriculum. However, the extent to which they were using this was varied. When teaching literacy and numeracy, all six teachers paired learning through play with direct instruction methods. For all other learning areas of the curriculum, learning through play was the primary pedagogy used by the W&C teachers. Teachers from the WO group indicated a varied use of single strategies, including mixed ability grouping and streamed ability grouping in their pedagogical practices. Post-intervention, the use of whole class teaching strategies in isolation were not reported by any of the study teachers.

Prior to the intervention, teachers indicated that resourcing, curriculum coverage, parents' perceptions or knowledge of play-based learning, and their own knowledge and skills presented significant barriers to the effective implementation of teaching through play. Post-intervention, teachers in the W&C group indicated that resourcing play, including the cost of it, remained an occasional barrier; but all other barriers, indicated pre-intervention, were not reported. Both WO teachers indicated curriculum coverage concerns continued to be an occasional barrier. One WO teacher indicated the resourcing of play, its cost

and time, and their own knowledge and skills as occasional barriers. The remaining WO teacher identified the perspectives and behaviour of senior management as a further occasional barrier to implementing play in their school setting.

Teaching through play practices. While the teacher questionnaire was implemented to gather data on teacher beliefs, focused classroom observations conducted across all intervention phases aimed to capture the way in which teacher practices changed over time for WO and W&C groups. Classroom focused observations were conducted prior to the intervention, in weeks 3 and 7 of the coaching phase, and at the conclusion of the coaching phase, using the P-BLOT. Figure 4.2 shows changes in WO teachers' practices and the extent to which gains were sustained over time for these teachers. Figure 4.2 also indicates the variability of practices and sustained changes that occurred for the two WO teachers, across the timeframe of the W&C group's intervention and data collection phases. While both WO teachers made initial gains in their practices, one teacher was unable to maintain the level of teaching through play practices over time. Changes to the environment in this teacher's classroom by the end of the study (Learning Environment) resulted in a higher total P-BLOT score. Nonetheless, her score related to teacher practice (Teacher Behaviour) suggests minimal change from the beginning of the study. The second teacher, whose pre-intervention scores were higher, made initial gains following the workshops and sustained these gains in teaching through play practices, across the course of the intervention.

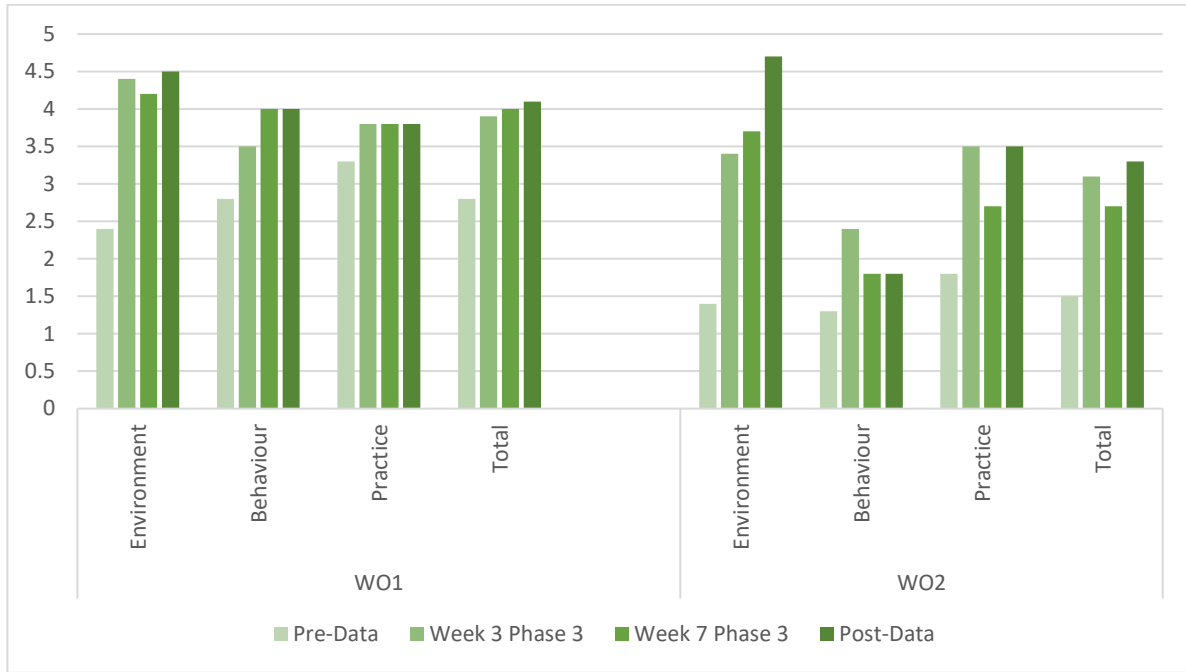


Figure 4.2. Workshop only (WO) teacher group change in teaching practices over time

Note. Environment = learning environment (section A) of P-BLOT, Behaviour = teacher behaviour (section B) of P-BLOT, Practice = overall teacher practices (section C) of the P-BLOT. Total = mean score of all 31 P-BLOT indicators. WO = workshop only teacher group. Scores reflect the evidence of teaching through play practices identified across the 31 indicators on the P-BLOT, with 0 indicating no evidence for the practice observed, through to 5 indicating strong evidence for the practice observed.

As shown in Figures 4.3 and 4.4, W&C teachers generally improved in their practices whilst receiving on-going coaching support. Improvement in the total scores, for each teacher within the W&C group from pre- to post-intervention, ranged from 1.3 (SD=0.92) and 2.2 (SD=1.56). The area of most improvement was the learning environment. At the conclusion of the intervention, all four W&C teachers demonstrated improved total scores in all the sections of the P-BLOT assessment.

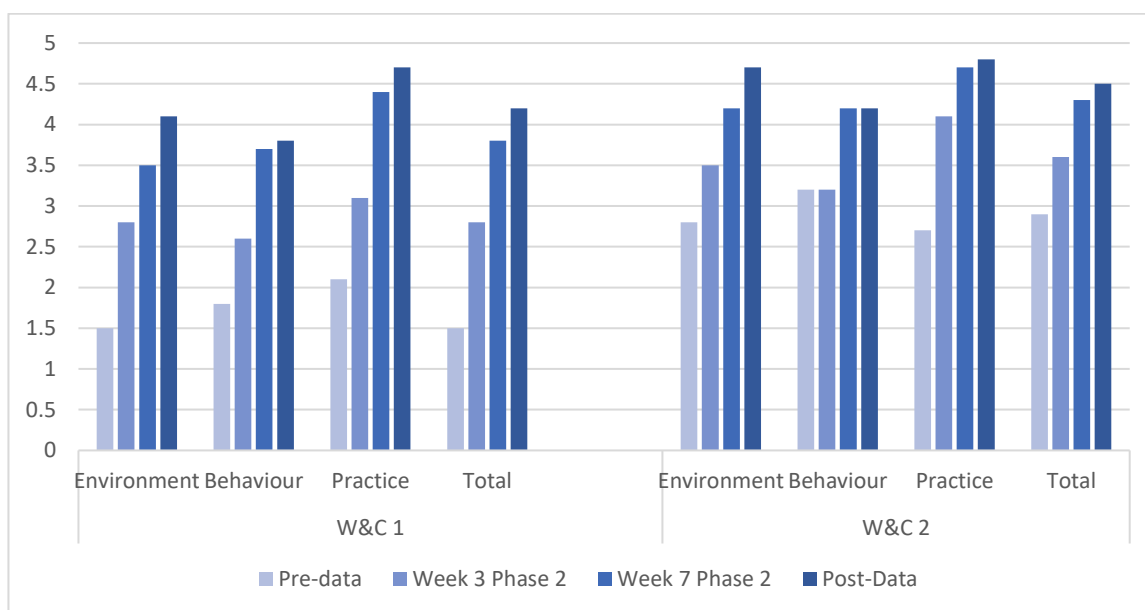


Figure 4.3. Workshop and coaching (W&C) teachers 1&2 change in teaching practices over time

Note. Environment = learning environment (section A) of P-BLOT, Behaviour = teacher behaviour (section B) of P-BLOT, Practice = overall teacher practices (section C) of the P-BLOT. Total = mean score of all 31 P-BLOT indicators. W&C1 = workshop and coaching teacher 1. W&C2 = workshop and coaching teacher 2. Scores reflect the evidence of teaching through play practices identified across the 31 indicators on the P-BLOT, with 0 indicating no evidence for the practice observed, through to 5 indicating strong evidence for the practice observed.

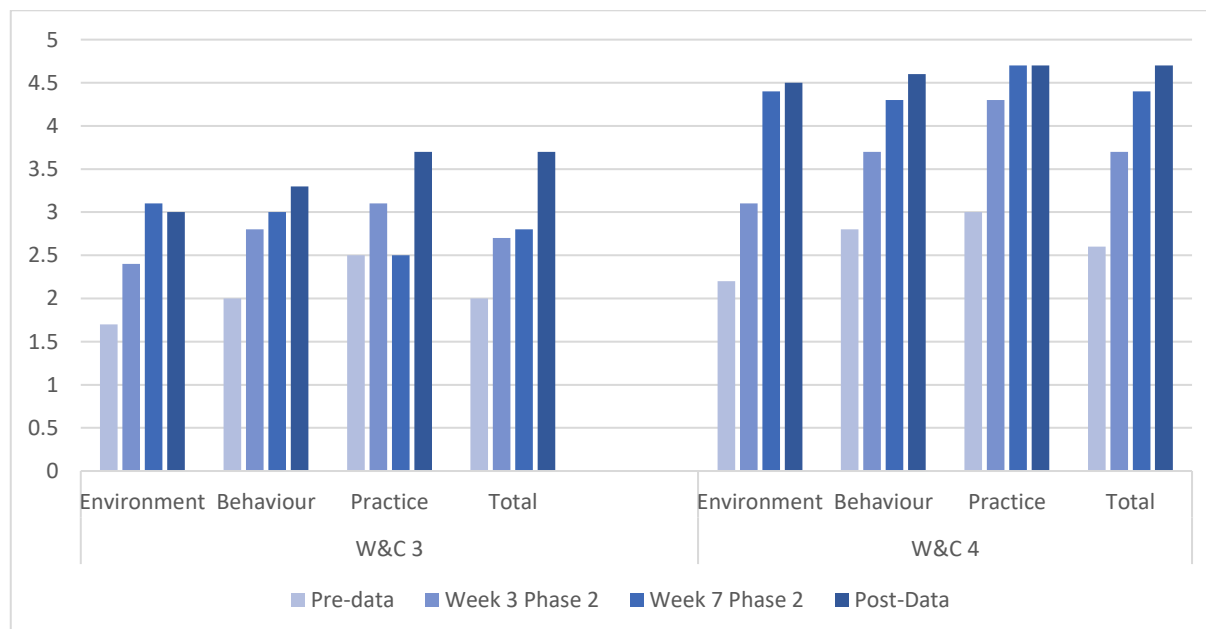


Figure 4.4. Workshop and coaching teachers 3&4 change in teaching practices over time

Note. Environment = learning environment (section A) of P-BLOT, Behaviour = teacher behaviour (section B) of P-BLOT, Practice = overall teacher practices (section C) of the P-BLOT. Total = mean score of all 31 P-BLOT indicators. W&C3 = workshop and coaching Teacher 3. W&C4 = workshop and coaching Teacher 4. Scores reflect the evidence of teaching through play practices identified across the 31 indicators on the P-BLOT, with 0 indicating no evidence for the practice observed, through to 5 indicating strong evidence for the practice observed.

Changes in teachers' practices, and the extent to which they sustained practices, can also be viewed using data from Section D of the P-BLOT. Section D indicates the presence of practices implemented that run counter to teaching through play practices. Table 4.4 demonstrates the presence or absence of counter-productive teaching practices observed pre-, during and post-intervention. Prior to commencing the workshop series, three of the six teachers demonstrated evidence of counter-productive practices in their play-based classrooms. Two teachers demonstrated all eight counter-productive practices listed in the P-BLOT. Immediately following participation in the workshop series, no counter-productive practices were observed for any of the WO or W&O teachers. However, during Week 7 of the intervention and again at the conclusion of the intervention, one of the WO teachers demonstrated two counter-productive teaching practices. Specifically, the teacher continued to either engage minimally with students during their play, if at all. If she did attempt to engage, she did so in ways that prevented, ended, or delayed the play, or overly-directed the ways in which the students were involved in their play.

Table 4.2

P-BLOT Section D: Number of Counter-Productive Teaching Practices Evident

Teacher	Pre-Intervention	Intervention Week 3	Intervention Week 7	Post-Intervention
Workshop Only				
WO1	8	0	2	2
WO2	0	0	0	0
Workshop & Coaching				
W&C1	8	0	0	0
W&C2	0	0	0	0
W&C3	3	0	0	0
W&C4	0	0	0	0

Note. WO = workshop only group. W&C = workshop and coaching group. There are 8 counter-productive practices that can be observed.

The impact on-going coaching supports had on the teachers' practices can be further considered with regards to the average change scores noted during classroom focused observations. Change scores refer to the difference in teachers' P-BLOT scores between pre- and post-intervention (i.e., post-intervention minus score–pre-intervention score = change score). Figure 4.5 compares the average change scores between the WO teachers and the W&C teachers.

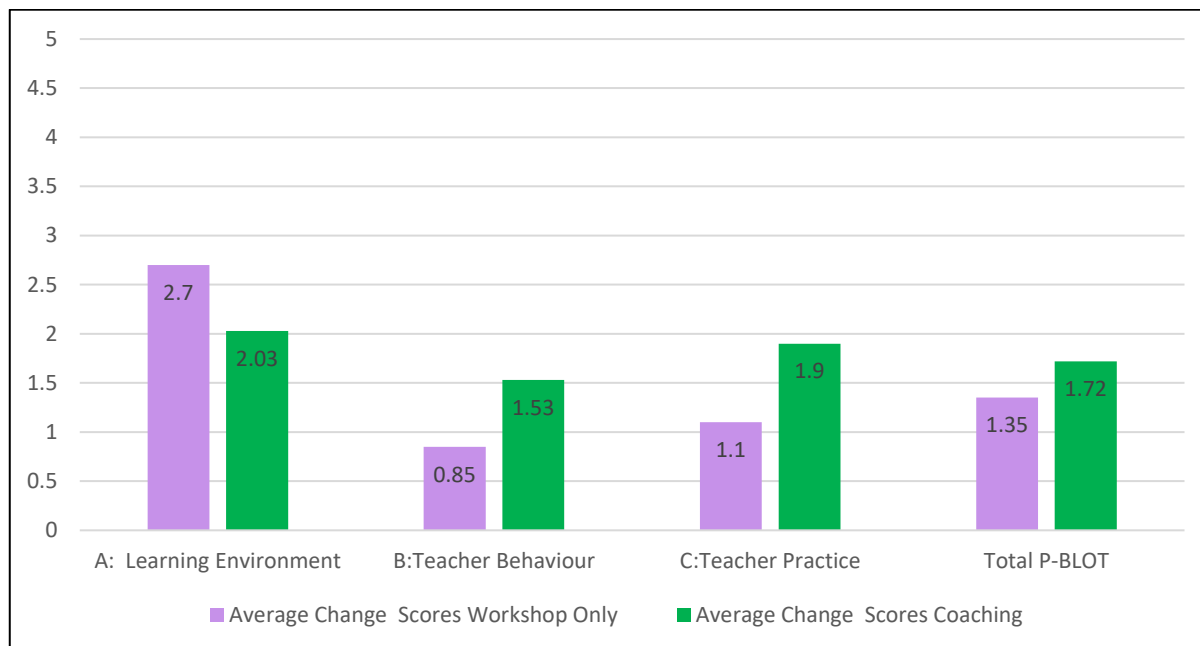


Figure 4.5. Comparison of change scores workshop only with workshop and coaching professional development

Note. Scores indicate the average change between pre- and post-intervention total mean P-BLOT scores in each section of the P-BLOT and the total average score.

Both WO and W&C groups showed changes in scores at the completion of the intervention in all areas of the P-BLOT. Greater rates of change were observed in relation to the learning environment by those in the WO group. W&C teachers had greater rates of change related to teacher behavior and overall teacher practices, than WO teachers. The overall rates of total change in practice were higher for the W&C group than the WO group.

Given this study's aim in examining the impact of a PLD intervention on the teaching practices and beliefs of those involved, results presented in this section have focused on the summary and comparisons of teachers' practices as measured by P-BLOT, for teachers in the WO and W&C groups. These summary results do not illuminate the individual shifts and variation in changes undertaken by the teachers during the intervention. Of note, the W&C teachers demonstrated different learning needs and began the intervention process with significantly different pre-intervention P-BLOT scores. While this study aims to determine the impact of a PLD intervention on teachers through comparing two teacher groups, elaborating on the individual changes that occurred within the coaching group is also useful. Appendix U provides a summary of each W&C teacher's experience during the coaching intervention phase of this study. The individual

experiences of the WO group are not shared, due to the small number of participants in this group and risk this information may identify the teachers involved in this group.

Interobserver agreement results. As discussed earlier in the methodology chapter, 30% of the focused observations conducted by the researcher were also undertaken with the use of a second observer. This was to ensure interobserver agreement (IOA) and the implementation of the P-BLOT with fidelity. Specifically, IOA was calculated to examine the extent to which two observers agreed on the Play-Based Learning Observation Tool (P-BLOT) score. Table 4.2 indicates the number of interobserver focused observations conducted across the study, in relation to the total number of focused observations completed.

Table 4.3

Number of Interobserver Focused Observations and Total Focused Observations Completed across all Intervention Phases

Intervention Phase	Total Interobserver Focused Observations Conducted	Total Researcher Focused Observations Conducted
Pre-Intervention	2	6
Intervention Week 3	2	6
Intervention Week 7	2	6
Post-Intervention	2	6
Total Focused Observations Conducted	8	24

Note. Focused observations = Data collected by observation using the P-BLOT tool.

Of the 32 focused observations conducted during the study, eight were interobserver focused observations. Two interobserver focused observations were performed during each phase of the intervention, across both study groups. The average percentage of agreement between observers for each phase by P-BLOT section and total score is shown in Table 4.3.

Table 4.4

Average Percentage of Interobserver Agreement for Focused Observations of Each Section of the Play-Based Learning Observation Tool (P-BLOT) across Phases

P-BLOT Section	Mean (M)			
	Pre-Intervention	Intervention Week 3	Intervention Week 7	Post- Intervention
Section A: Learning Environment	100	100	100	92.8
Section B: Teacher Behaviour	100	96.6	100	100
Section C: Overall Judgement Areas	94.4	100	94.4	100
Section D: Counter-Productive Practices	100	100	100	100
Total P-BLOT Score	98.7	98.7	98.7	98.7

Note. M = mean percentage

Interobserver agreement was calculated to within one point. The average interobserver agreement was 98.7% agreement across all phases of the intervention study. This indicated a high and consistent level of interobserver reliability between both observers conducting the classroom focused observations.

Research Question Three: Teachers' Perspectives about Participating in a Professional Development Programme for Teaching Through Play Practices, With and Without Coaching

This study sought to examine teacher beliefs about, and knowledge of, teaching through play. It also investigated the impact participation in a PLD programme had on the teaching through play practices of the teachers involved. At the conclusion of the intervention phases, data were collected to identify teachers' perspectives about their participation in the PLD intervention components used within this study. This section reviews the workshop evaluation data gathered during the workshop intervention phase. It also outlines the results of semi-structured individual interviews conducted with teachers from the WO and W&C groups at the conclusion of the intervention.

Workshop evaluations. Both teacher groups (WO and W&C) participated in four workshops during the workshop intervention phase of the study. At the conclusion of each workshop, all teachers were asked to respond to a series of evaluation statements about the content and facilitation of the workshops, using a 4-point Likert rating scale. Appendix N provides an example of the evaluation form used for this process. Feedback received by teachers at this stage of the intervention showed all teachers were satisfied with both the content, structure, and the facilitation of all the workshops. Table 4.5 shows the percentage of participants who strongly agreed with each evaluation statement across the four workshops. As also outlined in Table 4.5, all teachers indicated at the conclusion of each workshop that they strongly agreed that the use of play pedagogies was feasible within the primary classroom setting.

Table 4.5

Percentage of Participants Who Strongly Agreed by Workshop

Workshop Evaluation Statement	Workshop 1	Workshop 2	Workshop 3	Workshop 4
The workshop was well-organized.	100	100	100	100
The learning objectives for this workshop were clearly stated.	100	100	100	100
The learning objectives for this workshop were accomplished.	100	100	100	100
The trainer(s) who presented the workshop was prepared.	100	100	100	100
The trainer(s) was effective.	100	100	100	100
The information presented in this workshop will be useful for me as a primary teacher.	100	100	100	100
The content of the workshop has direct application to my classroom practice and work with primary school children.	100	100	100	100
The content of the workshop was appropriately targeted to my abilities and skills.	100	100	100	100
The content of the workshop is important for primary school teachers.	100	100	100	100

It is feasible to use play pedagogies in primary school classrooms.	100	100	100	100
I would recommend this workshop content to other primary school teachers.	100	100	100	100

Note: N = 6 teachers

Semi-structured interviews. Whereas the workshop evaluation data were collected at the conclusion of each workshop, the semi-structured interviews were undertaken at the conclusion of the coaching intervention phase. These interviews addressed teachers' perspectives about the implementation, challenges, student outcomes and post-intervention implementation of teaching through play practices. All teachers were asked to respond to questions related to their experience in participating in the PLD workshop phase of the intervention. Teachers in the coaching group were also asked to comment about their experiences in engaging in the PBC model of PLD. Thematic analysis of the interview data highlighted key themes about teachers' perspectives of the learning through play and the PLD they received, for the WO and the W&C groups. Key themes have been identified as: trust; confidence in implementation; timing and nature of supports; improvement and progress of students; change is challenging; practical implementation; and well-being of teachers. These themes were influenced by teachers' total experience in the study. The contrasts in experiences between WO and W&C groups are noted.

Trust. Teachers from WO and W&C groups identified that trusting in the process of teaching through play and the outcomes of implementing the practices was difficult to do. All were concerned whether their students would continue to demonstrate progress in their learning if they were engaged in play during the school day. However, the W&C teachers indicated this was only an initial concern and that they were reassured of the positive outcomes for students once the coaching process was underway. They felt supported by their coach in the practices they were implementing. In contrast, the WO group identified that their trust in the practices of teaching through play had improved following their participation in the study, but they still found it difficult to trust confidently that students would make progress, specifically in literacy and numeracy. A teacher from the WO group commented:

... but it's just that nervousness. If they are not doing those or are naturally drawn to doing a whole lot of writing and reading, how does that fit or how did it ... down to get their brain remembering and practising or that reinforcing of learning. I am just a bit nervous, but I push it away. But you know, it pops up every now and again.

Confidence in implementation. Confidence in the ability to implement and sustain the new teaching practices was a significant issue for the two teachers in the WO group. They described a lack of self-confidence in their ability to sustain these new practices learned during the participation in the workshops. While one WO teacher reported implementing with confidence in the post-questionnaire, conversations in the interview suggested an ongoing need to self-manage the anxiety she felt in relation to the long-term outcomes and benefits for students learning through play, particularly related to their literacy and numeracy progress. As this teacher explained:

There is always this little question mark at the end of what you are doing, and I suppose we won't know what has worked until it has worked if that makes sense.

Both WO teachers questioned whether they were implementing the practices correctly and indicated that there were frequent times where they felt they would slip back to a default in their teaching approaches. This was highlighted in one WO teacher's statement: *"I think it's just because it's all new that you go back to what's comfortable, when you feel like things are getting a bit out of control."*

Of note, one of the WO teachers indicated that the workshop PLD did not provide her with enough confidence to be implementing the practices with fidelity. She commented:

I need to now know that I'm doing it properly. I need to know what areas I need to strengthen or change or develop further. Yeah, I feel like my foot's still in both camps, but I would like to think that I'll keep it going towards more the play-based learning approach, because I think it's going to be better for the children in the long run, but I don't feel confident that I'm there yet.

While the teacher describes momentum towards play-based practices she also described the need for feedback (needing to know what areas to strengthen or change) in order to implement with fidelity (do it properly).

In contrast, the W&C group reported increased levels of confidence as a result of participating in the PLD. They indicated a general increase in knowledge of the New Zealand Curriculum (NZC) as a result of the material covered during the workshop PLD, but then went on to attribute the coaching with increased confidence in connecting the NZC to their students' play in their classrooms. Related to strengthening curriculum knowledge, one W&C teacher noted, "I thought I knew the curriculum, but not to the extent that you would use it in play-based." While WO and W&C groups reported that the PLD enabled them to see the clear opportunities to connect the key competencies and the values of the NZC with student play in an intentional manner, the W&C group specifically indicated a confidence in their ability to see connections to the learning areas of the NZC while children are engaged in play. As one W&C teaching explained:

... that's when you drop in your curriculum stuff. You know that's when you drop in your little bit about technology, oh architects etc, oh you know truck drivers they have to always make sure that their loads are secure etc, so they have to measure, and so you're always constantly bringing in your curriculum.

Another W&C teacher indicated that she felt confident in connecting the NZC to her students' play as a result of engaging in PBC. She shared:

I can now look at what the children are doing and make a plan ... well, not a plan but see the direction of their play and break it into the teachable moments that I want to take it to ... being able to relate it back to the curriculum areas.

Confidence in their implementation of teaching through play practices was described as a result of the coaching. One W&C teacher described that "coaching has made the difference, I think, from celebrating this way of teaching rather than just being left to it to flounder."

The use of an individualised action plan enabled teachers to feel supported to move at their own pace of learning, rather than a pressure to keep up with the learning of those around them. Moreover, the W&C group acknowledged the complexity of the teaching practices implemented in a play environment and indicated key coaching strategies that enabled them to identify specific areas of practice they wanted to refine. These strategies included modelling key practices, videoing and reflecting on teaching practices, including the use of supportive and constructive feedback, asking open ended questions, and engaging in reflective conversation. In explaining the use of video reflection, one W&C teacher shared:

... she actually recorded me and showed me the videos—here is an example of you doing this ... I watched it and, oh my gosh, I am asking way too many questions! Because she videoed it and we had that discussion, but she let me discover it myself by asking an open-ended question which was really valuable ... I wouldn't have picked it up, but because she said, "What do you think about your questioning techniques?" I went straight away, "Oh for goodness sake, I asked about 50 questions!" And we just had a good laugh about that.

Timing and nature of supports. WO and W&C groups agreed that participation in the PLD programme, and the subsequent changes that were likely to occur as a result of this participation, would need to be managed over a gradual period. All teachers indicated that the changes were challenging, and that time was needed to consolidate and manage the learning processes involved. However, the W&C group indicated that the frequency and time between coaching sessions felt appropriate in supporting this change process, highlighting, particularly, the need to stay focused and avoid any plateaus or drifts in their practices.

W&C teachers highlighted that the coaching provided real-time specific support and in-the-moment learning. For example, one W&C teacher noted:

The coaching is what makes it real and makes it 'then and now'. This is the play happening now. This is what is going on and if you haven't got anyone coaching you ... If [the coach] hadn't been there through that process I wouldn't have probably learnt it as quickly or as thoroughly.

In addition, the coaching group noted that receiving prompt written feedback in the follow-up email was useful to the learning process. The immediacy of this email enabled them to recall the coaching conversation they had had with me, and revisit the key concepts discussed during the debrief meeting.

Improvement and progress for students. Both groups strongly identified a wide range of positive outcomes for their students as a result of implementing teaching through play practices in their classrooms. These improvements included maturation of pro-social skills, positive oral language development, increased engagement and motivation for school and learning, improved student voice in the learning process, and increased student fitness levels as a result of outdoor play opportunities. WO and W&C groups commented specifically on the observable reduction in challenging student behaviour as a result of the increase in play opportunities supported through their participation in the PLD programme. All teachers indicated that there were no negative outcomes for students observed as a result of the changes in their practices and the use of play in their classrooms.

Change is challenging. The teachers in the WO group reported that managing the change in their teaching practices was challenging. They indicated that it was hard work, exhausting, overwhelming and, at times, difficult to sustain. However, this did not impact on their motivation to engage in the changes. Both teachers in the WO group reported they were motivated to learn and apply the changes to their teaching. They indicated that their participation in the workshop series had further motivated their desire to implement teaching through play in their classrooms. Despite indicating a lack of confidence in implementing teaching through play practices, one WO teacher commented:

... I don't think I could ever go back and teach the way ... that traditional type of way; it just doesn't make sense. Developmentally, it doesn't make sense to our kids to push or force them into any sort of formal learning unless they are ready for it and unless they want to do it.

Yet, despite the motivation the challenges remained. One WO teacher noted a lack of understanding regarding how to continue to ensure effective literacy coverage while teaching through play. She commented:

... the literacy ... they do group work but there is often not a whole lot of time that they all independently practise what they have learnt from that in their actual play, so if they are not practising, how are they retaining that knowledge? It is a bit scary...

In addition, the need to explain and justify the use of play practices to other colleagues was cited as a frustration for the WO teachers. They expressed a lack of confidence in their ability to succinctly explain the complexity of the teaching occurring in what seemed to be a very non-complex student activity. Elaborating on this, one WO teacher shared:

It is just quite hard ... not to convince someone but to teach someone about something that is sort of complicated and not complicated. I understand it now because I really kind of have been motivated to learn more about it, but there are still people here that are really reluctant to sort of take that philosophy of pedagogy on board.

In contrast teachers in the W&C group did not describe the same types of challenges or frustrations during the interviews.

Practical implementation. The W&C group indicated that coaching process enabled them to move past the theory behind the teaching through play approach and implement the key practices with confidence. They acknowledged that the workshops provided a foundation to understand the theory, but that it was the coaching that enabled the practical implementation of this theory into their day-to-day practices, with one W&C teacher commenting "... [it] really tested my pedagogy, of everything that I've already known". The W&C teachers recognised teaching through play was more than setting up the classroom environment for play, and the use of the associated practices was an ongoing learning process for them all. One W&C teacher highlighted, "It's not just what it looks like, it's what you are saying as a teacher ... what you are setting up, what you are [doing], how you're extending their knowledge and skills". In contrast, WO teachers

continued to express a lack of confidence that they were 'doing it right'. While they reported a sense of excitement and motivation to implement play practices, they acknowledged an underlying sense of knowing there was much more to learn but were unable to articulate what this looked like. One WO teacher explained, "It just feels really enormous, really enormous, and I want to be able to run before I can walk ..." and "... just it's hard work being really on the ball all the time."

Well-being for teachers. The W&C group identified an overall improvement in their own well-being as a result of participating in the PLD programme. They commented on how they enjoyed the process and that they felt motivated to be teaching as a result. One W&C teacher commented:

You can look back at the things you used to do—and I have been teaching for a long time—and I think, wow, it has been refreshing and exhilarating to actually be going off on a different plane really.

Another W&C teacher shared:

All I can say is that I would never go back to being a traditional classroom teacher of sit down, be quiet, worksheets, follow the task and do what I say ... I have been teaching for 25 years and I know that I couldn't be happy in a classroom that didn't celebrate learning through play.

In contrast, interviews with the WO teachers did not highlight this same sense of personal well-being and teacher satisfaction.

Unpacking the drivers in coaching. The W&C group were asked to identify aspects of the coaching process they found most useful during their participation in the coaching phase of the intervention. Two themes emerged: the coaching process was non-judgmental, collaborative, and supportive; and coaching provided a clear focus for their learning and teaching practices.

Non-judgmental, collaborative, and supportive. The W&C teachers identified that the coaching process was collaborative, individualised, and non-judgmental. Specifically, they indicated that having a coach who they felt was non-judgmental and who understood and tailored the coaching to their individual

learning needs was important in making them feel supported in what felt, initially, to be an overwhelming process. A W&C teacher commented:

When I started it was like, oh my gosh—I was a little overwhelmed ... [the coach] reinforcing the fact that it is normal to feel like this, when you have taught in a way for so long and it is hard to let go and just have it broken down into manageable bits really and deal with those.

The W&C teachers identified that the supportive and constructive feedback they received was helpful in reflecting and changing on their teaching practices. One W&C teacher shared:

I really thrive on critical feedback—and positive as well—and supportive. So, I like to be told you are doing this really, really well, but have you thought about doing this and I like it, it was very balanced. [The coach] would say all these positive things that made me feel really good about what you are doing, and then she was constructive and said have you thought about this?

Clear focus. The use of a written action plan helped maintain the focus for all the teachers in the W&C group. The teachers indicated that having this clear plan kept the process manageable and enabled them to sustain a focus on their practice goals during the time between coaching sessions. Comments by W&C teachers included, "... it gives you a planning direction that is actually planned ..." and "... because learning through play is so big and there are so many areas and aspects ... it kept you grounded in a way that you knew what you were really focusing on." Several of the W&C teachers indicated that they would actively return to revise the action plan between sessions, to ensure they were implementing the steps they had agreed upon during the feedback sessions.

Fidelity of Coaching

This intervention examined the impact of a PLD intervention on teaching through play practices used by teachers who received workshop only PLD and those who received workshop and ongoing coaching PLD. The way in which the PLD was implemented is outlined in the methodology chapter, including

measures undertaken to ensure the fidelity of delivery of practice-based coaching (PBC), during the coaching phase of the intervention. This section describes the data collected to report on the fidelity and adherence to PBC coaching protocols.

Table 4.6 shows the amount of time the W&C group spent in focused observations and debrief meetings for the coaching intervention phase of the study. The final session consisted of a debrief meeting and did not include a classroom focused observation. The purpose of the final debrief meeting was to provide summative information and celebrate the progress the teachers had made over the course of the 20-week period.

Table 4.6

Dose of Practice-Based Coaching Received by Coaching Group

Coaching Group <i>n</i> = 4 teachers Length of Coaching = 20 weeks Number of sessions = 9				
Session Number		Recommended Session Length (range in minutes)	Mean session duration (minutes)	Standard Deviation (SD)
One	Observation	90 – 120	90	0.00
	Debrief	30 – 90	58.75	2.50
Two–Eight	Observation	60 – 90	74.46	11.08
	Debrief	20 - 60	35.71	6.49
Nine	Debrief Only ^a	30 - 90	56.25	4.79

Note. Recommended Session Length as stipulated in the practice-based coaching protocols. ^aSession Nine does not require an observation component to the session. Sessions were fortnightly, unless in conflict with events such as school holidays, significant school events. Data reported excludes the welcome meeting.

In general, the focused observations undertaken were longer in duration during Session One than the focused observations undertaken in all other sessions. Similarly, the time spent in debrief meetings was longer in duration in both Session One and Session Nine than during all other coaching sessions. Session Nine, the Closing Meeting, did not have an observation component; instead a summary of the coaching received was presented to the teacher, the Action Plan was reviewed, and the sustainability of practice, post-intervention, was discussed. The length of all coaching sessions remained consistent with the PBC protocols.

Table 4.7 outlines the percentage of sessions in which coaching strategies were used, during Sessions Two through to Eight, in the focused classroom observations and/or the debrief meetings. PBC protocols recommend coaches use essential coaching strategies to ensure teachers' improved implementation of new practices, and to strategically use enhancement coaching strategies when deemed useful to support the teachers' practice and knowledge further. Essential strategies are categorised as *every time* strategies and *at least twice* strategies. Every time essential strategies include focused observation, reflective conversation, supportive and constructive feedback, and the provision of resources and materials to support the action plan. Goal setting, providing data-based graphic feedback, and teacher classroom video strategies are expected to occur at least twice through the coaching intervention.

Table 4.7

Percentage of Sessions in which Coaching Strategies were used during Observation and Debrief Components

Strategy	Percent (%) of Sessions	
	Observation	Debrief
Focused observation ^a	100	
Supportive feedback ^a	96.43	96.43
Constructive feedback ^a	21.43	100
Reflective conversation ^a	7.14	100
Providing resources or materials ^a		96.43
Goal Setting ^b		39.86
Reviewing teacher video ^b		21.43
Data-based graphic feedback ^c		10.71
Modeling ^c	82.14	
Side-by-side verbal/gestural feedback ^c	35.71	
Environmental arrangements ^c	3.57	7.14
Problem-solving discussion ^c		21.43
Role-play ^c		39.29
Other help in classroom ^c		

Note. ^aEssential PBC strategies used in either observation, debrief meeting, or a combination of both. ^bEssential PBC strategies to occur at least twice during the coaching intervention period, during debrief sessions. ^cEnhancement PBC strategies used in either observation, debrief meeting, or a combination of both.

In all sessions, all the 'every time' essential strategies were implemented. Supportive feedback, constructive feedback and reflective conversation occurred in both observation and debrief components. The provision of resources and materials occurred solely during the debrief meetings. Goal setting occurred with all teachers every 2–4 weeks, remaining consistent with the PBC protocols. The review of teacher

classroom video and the use of data-based graphic feedback did not occur 'at least twice' for each teacher as recommended in the PBC protocols. Teacher video review occurred 21.43% of the time (or about 1–2 times depending on the teacher) and data-based graphic feedback occurred 10.71% of the time (or once for 3 of the 4 teachers). Of the identified enhancement strategies in the PBC protocols, modeling was the most frequently used strategy during focused classroom observations (82.14%), followed by side-by-side verbal and/or gestural feedback (35.71%). Role-play and problem-solving discussions were the two most frequent strategies used during debrief meetings. Overall, the data indicated that the coaching protocols were implemented with high levels of fidelity.

Chapter Summary

This study sought to investigate the impact participation in a PLD intervention programme would have on both teachers' beliefs and their teaching practices when implementing teaching through play pedagogies in their classrooms. The results indicate that, overall, the teachers who received workshop and coaching (W&C) PLD increased their confidence in both their knowledge and implementation of effective teaching through play practices within their classroom settings. Those who received workshop only (WO) PLD increased in motivation and a desire to implement teaching through play practices and made some changes to their learning environments as a result. However, scores demonstrating changes to teaching practices pre- and post-intervention indicated that the extent to which teaching practices were impacted by the PLD intervention were greater for those who received coaching (W&C) than those who did not (WO group). Teachers in both groups expressed belief in teaching through play, and a desire to implement teaching through play. Teachers in both groups commented on the teacher-observed positive outcomes for their students. Challenges and barriers to the effective implementation of teaching through play continued to exist post-intervention, however, those in the W&C group generally felt a confidence in being able to address these challenges as they moved forward with the implementation of play practices in their school setting.

Chapter 5

Discussion

Introduction

This study sought to investigate the impact of a professional learning and development (PLD) programme, with or without on-going coaching, on the beliefs and teaching practices of teachers adopting play pedagogies in the primary classroom. This chapter discusses the findings of the study in response to the research questions. The use of a mixed methods approach provided quantitative and qualitative data to better understand the results and key messages of the present study, with reference to wider and relevant PLD research.

The research questions were:

1. What are primary teachers' play-based teaching and learning beliefs and practices?
2. How does participating in a PLD programme, with and without on-going coaching supports, impact teachers' beliefs and practices in a play-based school environment?
3. What are teachers' perspectives about participating in a PLD programme, with and without coaching?

This chapter is organised around the research questions, with key findings highlighted at the beginning of each section or subsection and then discussed with more detail. The first section addresses teachers' pre-intervention beliefs and practices associated with teaching through play approaches and examines the challenge teachers face in translating their knowledge and value of play into classroom practice. In the next section, the second and third questions are addressed together. The discussion centres on the impact of the PLD intervention on teachers' beliefs and practices, with key themes from the results considered in relation to the wider literature on PLD with coaching, and workshop only PLD intervention methods. Throughout this section of the chapter, the teachers' perspectives of the impact the PLD had on their practice are also considered in relation to the findings. The chapter ends with summary of key findings and discussion points.

Pre-Intervention Teacher Beliefs and Practices of Teaching through Play

In the present study all teachers indicated they believed in the value of play for children and their learning, and teachers' voluntary involvement in the study was indicative of their interest in further exploring the practices associated with teaching through play. However, most teachers reported a lack of self-confidence in what effective teaching through play looks like in practice. While teachers indicated they were implementing learning through play in their classrooms, pre-intervention observations identified varied and inconsistent teaching through play practices.

Teachers indicated that they valued teaching through play, yet teachers demonstrated varied practices that disclosed a tension between what was valued and what was practiced. Discrepancies between teacher reports, through the questionnaires, and observed practices indicated that there were differences between what teachers *thought* they were doing in their daily practice and what they were *actually* doing. Interview results highlighted teachers' fears and challenges in implementing teaching through play and meeting curriculum requirements. These findings reflect a key issue, identified in previous literature, that teachers face in implementing play pedagogies within the school environment: Play is acknowledged as beneficial for children, yet, teachers are unfamiliar with how to teach through play and meet the curriculum demands required of them in the primary school sector (Blucher et al., 2018; Davis, 2018; Fesseha & Pyle, 2016; Fung & Cheng, 2012; Martlew et al., 2011). In the present study, prior to the PLD intervention, teachers were facilitating opportunities for children to engage in self-directed play, with little teacher engagement or intentional teaching to support and extend learning in the play. Direct instruction was used to support subject-focused content (i.e., literacy and numeracy) while other children played, and teachers did not view or use play as a pedagogy to teach the learning areas of the New Zealand Curriculum (Ministry of Education, 2007). The findings of the present study suggest a lack of understanding for primary teachers on the connection between teaching, learning, and play, which reflect similar findings within the wider literature examining the implementation of play pedagogies in the primary classroom setting. For example, Pyle and Danniels (2017) examined 15 Canadian kindergarten classrooms (equivalent to New

Entrant level in New Zealand), identifying two different teacher profiles as a result. The first teacher profile viewed play and learning as separate constructs, reporting challenges in meeting academic curriculum demands as a result of learning through play. For teachers fitting this profile, students primarily engaged in free play (i.e., without adult guidance or involvement). The second teacher profile viewed play as a way to support academic learning, holding a belief that teachers had an important role in students' play. Pyle and Danniels identified five different types of play within the classrooms of teachers fitting this second profile, situated along a continuum from child-directed to more teacher-directed. Pyle and Danniels also identified that teachers were unsure about the use of play pedagogy within the primary school setting, where curricular demands traditionally become more formalised as children mature. Likewise, several further studies indicate, while teachers believe in the value of play, in practice, they struggle with effective implementation, given the demands of a prescribed curriculum and an outcomes focused system (Blucher et al., 2018; Davis, 2018; Fesseha & Pyle, 2016; Fung & Cheng, 2012; Martlew et al., 2011). Learning that occurs as a result of teacher-led practices, as opposed to child-led play, has been seen to be of higher priority in classroom settings (Pramling et al., 2006; Wood, 2010). However, as a result of growing awareness of the value of play, teachers are now being challenged to consider their preferred instructional strategies, the purpose of both play and learning, and the role teachers have in students' play (Davis, 2018; Pyle & Danniels, 2017). In the pre-intervention phase of the present study, teachers indicated they understood the value of play in the school setting but lacked confidence in how this translated into their pedagogical implementation and daily teaching practices. Furthermore, observation data indicated, although teachers identified that they were implementing learning through play pedagogy, the observed pedagogy was inconsistent and varied.

One way to address the difficulty teachers face with translating the value of play into their classroom context is to challenge the dichotomous view of play and learning at school (Ashiabi, 2007; Han, Moore, Vukelich, & Buell, 2010). A more concrete definition of learning through play in the school setting, and an identified continuum of practice would also assist teachers in understanding their role in implementing play pedagogies (Pyle & Bigelow, 2014; Pyle & Danniels, 2017). Figure 5.1 provides an example of the way in

which such a continuum can be illustrated. At opposing ends of the continuum the adult role is either too little (unstructured) or too much (highly structured) and, as such, learning opportunities that may arise in these two contexts can be either chaotic and lack purpose, or be too tightly directed, thereby depriving children of the opportunity for more active learning (Department for Children, Schools & Families (DCSF), 2009).



Figure 5.1. Continuum of teaching approaches in the early years. From “Learning, Playing and Interacting: Good practice in the Early Years Foundation Stage,” by the Department for Children, Schools and Families. (2009). p.5.

In the current study, teachers were presented with a similar continuum, reflective of the New Zealand classroom context, as a resource to discuss and reflect upon during the workshop intervention phase (Appendix G). The resource was used to support teacher understanding of a balanced approach to teacher instruction in a play environment, and to guard against the pendulum swing that can occur between formalised instruction and ‘free’ play (Pyle & Danniels, 2017). Play pedagogies, for the most part, have been positioned at one end of the instructional continuum, with formalised learning, including direct teacher instruction seen at the opposing end (Blucher et al., 2018; Howard, 2002; Wu, 2015). While teachers, during the pre-intervention phase of the present study, indicated their belief in play was important for their students’ development, they did not demonstrate an understanding as to how learning through play could be used to intentionally teach all areas of the curriculum. Whole-class instruction, mixed ability grouping, and streamed ability grouping, all teacher-led, were the primary methods of delivering curriculum content such as science, social sciences, physical education, and arts. At the conclusion of the study, teachers in the W&C group identified learning through play as the primary pedagogy used to deliver wider curriculum areas, beyond literacy and numeracy content. While whole-class instruction was no longer a feature in WO and W&C

groups post-intervention, the WO group continued to use a variation of teacher-led instructional strategies as a way to deliver similar curriculum content, and indicated a lack of confidence in their ability to identify curriculum areas within child-led play. Overall, this indicates a discrepancy between what teachers believe about play, and what they do with regards to their practice of teaching through play. This finding supports the need for ongoing PLD support to enable teachers to move away from teacher-led instruction and incorporate more child-led play pedagogies to cover wider curriculum areas, such as the sciences, arts, physical education, and technology.

Teaching approaches, such as didactic teacher-led instruction, continue to be dominant within the primary sector (Davis, 2018; Nicholson et al., 2016; Pyle & Danniels, 2017; Walsh et al., 2007; Whitebread, 2012), with play viewed as an activity available to students after the business of learning (i.e., teacher instruction) is completed (Murphy, 2006; Walsh et al., 2011). Rather than adopting a one-or-the-other instructional approach, advocates for play in school settings argue the need for a balanced, responsive approach to children's learning needs by implementing intentional teaching methods (Blucher et al., 2018; Hirsh-Pasek & Golinkoff, 2011; McLaughlin & Cherrington, 2018; Milne & McLaughlin, 2018). By intentionally incorporating both child- and adult-guided teaching approaches within a play environment, teachers may develop more confidence in ensuring the benefits of learning through play occur, whilst meeting the demands of the school curriculum.

Impact of PLD on Belief and Practices about Play-based Teaching and Learning

The findings of the present study highlight several key areas in which the PLD implemented impacted on the beliefs and teaching through play practices of the teachers involved. These impacts were differentiated by the type of PLD received (i.e., workshops only or workshops and coaching). This section discusses the impact of the study's PLD intervention in relation to the five core and three structural features of effective PLD models discussed in the wider PLD literature, within Chapter Two (Bishop & Berryman, 2009; Dunst et al., 2015; Hamre et al., 2017; Reinke et al., 2012; Snyder et al., 2011; Timperley et al., 2007;

Weiland et al., 2018). PLD features are discussed with specific consideration for supporting play-based teaching and learning in primary settings.

Core features of PLD. The core features of effective PLD include learning that is:

1. Supported by an external expert/trainer or coach
2. Has explicit content that integrates theory and practice
3. Provides multiple opportunities to actively learn and apply knowledge to relevant contexts
4. Includes observation, coaching, or performance feedback, and
5. Uses student assessment data to inform practice and monitor impact on student outcomes.

Supported by an external expert/trainer or coach. Engaging an external expert in the delivery of PLD is common practice within New Zealand and international PD literature. A key role of the external expert is to support the link between newly released research into effective teaching practices, and the application of this research to teachers practicing in their classrooms (Timperley et al., 2007). In the current study, I adopted both researcher and coach roles for the purpose of the study implementation. As outlined in Chapter One, I have significant expertise both as a teacher, play advocate, and coach of teacher practices. In addition, I engaged in further training with practice-based coaching trainers from both the University of Florida and Massey University. This enabled me to apply my knowledge of evidence-based teaching through play practices to the practice-based coaching model, to implement the PLD interventions. Timperley et al. (2007) indicate that while it is important that an external expert, trainer, or coach has the desired content knowledge related to the teaching practices that are the focus for PLD implementation, they also require skills identified as *provider pedagogical content knowledge*. That is, experts need to know how to make the content meaningful and manageable to teachers in such a way that they are more likely to adopt and apply new skills and practices in the context of their own individual classrooms. Experts working in more iterative ways are more likely to assist teachers to make relevant and individual connections to new learning, thereby addressing their own teaching practices (Timperley et al., 2007). The collaborative aspects

of practice-based coaching enable a trained coach or 'expert' to connect a set of explicit teaching practices with specific classroom contexts, and enable teachers to develop meaning in relation to their own individual teaching practices (Snyder et al., 2015).

In the current study, the impact of having an external coach with *provider pedagogical content knowledge* can be seen in the comparative data gathered between the workshop and coaching groups post-intervention. Specifically, there are different rates of change related to the teacher behaviour section of the P-BLOT between WO teachers and those who engaged in practice-based coaching (W&C) with the 'coach' or 'external expert'. Greater rates of change were observed in relation to teacher behaviour (Section B) and overall teacher practices (Section C) for those who received coaching than those who engaged in workshop only PLD. Sections B and C require teachers to critically examine their current practices and consider how these align with the evidence regarding optimal teaching practices in a play-based learning environment. The W&C group reported that the non-judgmental, collaborative, and supportive approach by the coach was important in guiding them through what initially felt like an overwhelming learning process. Developing over time, collaborative partnerships are based on an established positive rapport and shared understanding, and acknowledge teachers' learning preferences, individual strengths and needs, whilst maintaining a clear focus on the implementation of effective teaching through play practices (Snyder et al., 2015). This collaboration experienced by the teachers suggests that, as coach, I was able to develop trusting relationships with the teachers, thus supporting them to develop confidence in their knowledge and ability to implement play pedagogies.

Collaborative partnerships are identified within wider PLD literature as an important component of effective adult learning, in that partnerships provide emotional and personal support for teachers (Timperley et al., 2007). Referring to 'side-by-side' coaching, Akhavan (2015) identifies the positive impact on teacher confidence when a coach encourages new instructional practices without judgment. Shannon et al. (2015) identified the impact the collaborative nature of the coaching relationship had on teacher confidence within their embedded instruction PD intervention study. Teachers in their study indicated that the coach honored

the self-awareness and classroom knowledge teachers contributed to the coaching process while supporting them to reflect on and apply newly learned practices related to the content of the PD.

In the current study, in my role as coach and external expert, my involvement impacted on teacher confidence levels, and also impacted on observable teaching practices during the intervention. While both WO and W&C intervention groups were provided with a clearly defined set of effective teaching practices, namely the Practice Implementation Checklists (see Appendix H) (Aiono & McLaughlin, 2018), at the conclusion of the workshop intervention phase, for those in the W&C group, these checklists guided both coach and teacher in the action planning and reflection process throughout their coaching experience. As coach, I supported each W&C teacher to identify a clear goal and plan to improve on practices over the coaching period. In drawing on a set of effective teaching practices, in collaboration with me, each teacher was able to identify and articulate explicit teaching behaviours related to the professional learning.

W&C teachers reviewed the practice-implementation checklists with me, ensuring repeated opportunities to reflect on and develop their confidence in effective play pedagogies. In using the checklists to identify a specific practice goal and receive feedback on the success of their work towards this goal, W&C teachers developed confidence in their use of play as a pedagogical tool, and in their abilities to implement teaching through play effectively. For example, teachers who may have expressed initial concern regarding the impact of learning through play on student literacy and numeracy levels were encouraged through the coaching process to draw on student assessment data to inform their practice decisions and monitor the impact of their practices on student outcomes. Using data to guide effective practices is consistent with recommendations from effective PLD literature (Timperley et al., 2007) and an example of how core features of PLD work together in dynamic ways. With the support of me as coach or 'external expert', those in the W&C group were reassured of the progress students were making whilst engaged in play, thus contributing to their belief and confidence in the implementation of play pedagogies. In contrast, those in the WO group were provided with the Practice Implementation Checklists at the conclusion of the workshop phase of intervention but did not receive regular reminders to review these checklists and reflect on the presence,

absence, or frequency of the implementation of these explicit practices. As a result, workshop only teachers continued to express a lack of trust in the use of play pedagogies, and their ability to implement them in a way that positively impacted student learning outcomes.

Explicit content that integrates theory and practice. In the wider PLD literature, it is common for studies to examine PLD delivered within a specific content or curricular domain. For example, Winton et al. (2016) examined professional development (PD) interventions that included coaching, consultation, or mentoring to support the improvement of teaching practices related to curricula or a content domain (e.g., literacy, socio-emotional development) within 32 published peer-reviewed studies between 2006 and 2012. Winton et al. reported that these studies had two key features related to the promising outcomes identified within the studies: The first, that teachers were provided with detailed, concrete, and specific information about environmental, interactional, or instructional practices related to the focus of the PD, with explicit descriptions and demonstrations of these practices; the second, that teachers were provided with individualised, sustained support and feedback related to their implementation of these practices within their classroom settings. Winton et al. conclude that it was the combination of these features that contributed to the improvement in classroom quality and teaching practices, in the studies reviewed.

The present study is unique in that there was no specific curricular or content domain to be supported, rather the focus is pedagogical use of play. This focus on the pedagogical use of play is one reason the practice-based coaching model was selected for the present study. PBC relies on the use of a set of effective teaching practices, derived from evidence-based, or recommended practices, that when implemented with fidelity have been demonstrated to be positively associated with student engagement and learning (Snyder et al., 2015). The present study contributes to a growing body of empirical support for PBC, which focuses on explicit teaching practices within specific curricular domains and approaches to teaching across multiple learning areas (Isner et al., 2011; Snyder et al., 2015).

The results of the current study support findings noted in similar studies investigating the implementation fidelity of teaching practices and the need to move teachers beyond improved knowledge

and awareness into effective behaviour and practice. Shannon and colleagues (2015) identify on-site coaching as being differentially effective in improving the rate and accuracy of implemented embedded instruction learning trials, in comparison to those teachers engaged in self-coaching or business-as-usual PD (i.e., workshops, conferences, courses, communities of practice, and peer-observation). Hemmeter et al. (2016), in their study investigating implementation fidelity of Pyramid Model practices, found that teachers receiving a combination of workshops and on-site PBC implemented significantly more desired teaching practices with fidelity than those who received workshop-only PD. Additionally, Fox et al. (2011), in their study examining the challenge of supporting teachers to implement a complex array of evidence-based practices with fidelity, indicate a functional relationship between the PD intervention (i.e., workshops and/or coaching) and the fidelity of practice implementation. Fox et al. conclude that, in addition to workshop training, teachers who are engaged in implementing more complex and comprehensive practices, such as those examined in their study, require higher dosage rates of instructional coaching than those focused on implementing a single practice or a set or related practices (Fox et al., 2011; Pianta, Mashburn, Downer, Hamre, & Justice, 2008).

Multiple opportunities to actively learn and apply knowledge to relevant contexts. During the workshop intervention phase of the current study, both intervention groups were exposed to new knowledge regarding resourcing and management of the learning environment, intentional teaching through play practices, timetabling and curriculum integration in play, and assessment of learning outcomes. While substantial evidence indicates that workshop-only style training is insufficient in supporting teachers to implement new teaching practices with fidelity, incorporating training as an initial component of a PLD intervention is recognised as useful in increasing teachers' knowledge in preparation for the coaching process (Artman-Meeker, Gettig, Barton, Penney, & Zeng, 2015; Shannon et al., 2015). P-BLOT scores from the post-workshop intervention phase (i.e., Week 3 of the coaching phase) identify increased rates of implementation fidelity related to the resourcing and management of the learning environment, by both WO and W&C teacher groups. This suggests increased knowledge of effective resourcing and management of

the classroom space as a result of teachers' engagement in the workshops. Teachers were able to make the necessary changes and adjustments to their classroom in preparation for supporting children's play. During workshops, teachers shared what and where useful resources could be found, and examples of how these were managed in their classrooms.

In addition, the workshops enabled teachers to consider and discuss, as a group, the use of the New Zealand Curriculum (NZC) (Ministry of Education, 2007) to support the affective and cognitive domains of their students' development through adult- and child-guided play. Post-intervention, teachers reported improved general knowledge of the NZC, with WO and W&C groups identifying clear opportunities to connect the key competencies and values of the curriculum to student play. Timperley et al. (2007) identify the value of 'front-loading' teachers with new ideas and content in a way that enables teachers to examine current practices and, in the face of new information, construct new theories of practice related to desired student outcomes. In their meta-synthesis, Timperley et al. identify a typical sequence of PLD activities that includes the front-loading of new learning, more often delivered in relatively formal ways (i.e. lecture-style presentation, workshops and training seminars). This front-loading typically occurs prior to the provision of activities (such as coaching) that assist teachers with the translation of new knowledge into practice.

The use of 'front-loading', in isolation, however, is insufficient in driving change in teacher knowledge of more complex curricula, and in ensuring desired changes in teaching practice (Snyder et al., 2011). Notably, in the current study, while WO and W&C groups reported increased knowledge of the key competencies and values of the NZC in relation to students' play, teachers in the W&C group attributed the experience of coaching to their increased knowledge of the NZC learning areas (i.e., science, social sciences, the arts) in students' play. Therefore, the workshops may have provided foundational knowledge of the NZC in a play setting, but the additional coaching enabled teachers repeated opportunities to build more complex knowledge of the curriculum and use this knowledge in their responses to students engaged in play.

Timperley et al. (2007) indicate a core component of effective PLD includes the provision of a variety of activities that assist teachers to translate new knowledge into practice, along with repeated opportunities to revisit and refine new knowledge. Joyce and Showers (2002), in their meta-analysis, suggest that effective features of PD included a combination of pedagogical strategies such as theory and discussion, explicit demonstration of practices in training, practice with feedback in training, and coaching in the classroom. In the current study, the impact of the coaching intervention on teacher knowledge and practice is most notable in the higher change scores in Sections B (teacher behavior) and C (teacher practice) of the P-BLOT, for the W&C group.

These results suggest that PLD interventions, inclusive of ongoing coaching, enabled the teachers in the W&C group to connect their general knowledge of the curriculum to the application of teaching strategies aimed at supporting students' cognitive development in a play setting. W&C teachers were able to move from viewing learning through play as a discrete classroom activity, primarily used to support children's socio-emotional development, into a pedagogical approach incorporating specific curricular domains, such as the sciences, arts, and technology. As a result of engaging in focused observations, feedback and reflective discussion, teachers identified areas of knowledge they needed to strengthen, in order to confidently respond to student learning needs when engaged in play. Timperley et al. (2007) suggest that engaging in these repeated opportunities for reflection and feedback enables teachers to revisit and refine new knowledge, connecting teachers to the theoretical framework underpinning the PLD model they are engaging with.

Includes observation, coaching, or performance feedback. Performance feedback ensures teachers are provided with feedback on their teaching behaviours and practices using data gathered from observations of the teacher operating in the context of their own classroom. This feedback is most impactful when it situates the teacher's new learning with the classroom context in which the teacher is working in (Crow & Snyder, 1998; Noell et al., 2005). In the current study, this performance feedback occurred through the collaborative model of PBC (Snyder et al., 2015). Observations undertaken by me, as coach, focused

on specific teaching goals established collaboratively between the teacher and me. During observations, if appropriate, I was able to provide supportive feedback, model, problem-solve or encourage teachers in their own practice within the classroom context. At the conclusion of the observation period, teachers met with me to engage in a debriefing session. During this time, both supportive and constructive feedback was given in relation to the identified goal set by the teacher.

There were several notable outcomes identified for the W&C teachers, post-intervention and in comparison, to the teachers who did not engage in the coaching process. The impact of the coaching PLD is most notable when comparing the two intervention groups in the P-BLOT areas of teacher behaviour (Section B) and overall teacher practices (Section C). Average change scores indicated greater rates of change for teachers in the W&C group than those in the WO intervention group in the area of their teaching behaviours (i.e., the use of intentional teaching strategies when teaching through play) and the implementation of teaching practices such as planning and assessing for learning in play. Change in practice was also connected to changes in reported confidence levels of the W&C teachers, which contrasted with those in the WO group. The W&C group indicated increased levels of confidence related to both the implementation and sustainability of play pedagogies and a trust in the learning outcomes associated with effective teaching through play practices.

The impact of the coaching intervention in the current study on the teaching behaviour and practices of the teachers involved, in comparison to those who did not receive coaching, suggests a need for intensive support, to ensure implementation fidelity of the complex teaching strategies and practices associated with effective play pedagogy. Where workshop-style training provides teachers with knowledge and an awareness of the teaching strategies effective in a play environment, coaching with performance feedback enables teachers to implement these strategies, with fidelity, in the context in which they are teaching (Hemmeter, Snyder, Kinder, & Artman, 2011; McGee, 2008; Pianta, 2006).

McCollum, Hemmeter and Hsieh (2011), in their study investigating the impact performance feedback has on increasing teacher instructional levels in emergent literacy practices, identified the need

for coaching processes to be clearly aligned to the desired outcomes of PLD interventions. That is, if teachers wish to increase the effectiveness of their teaching through play behaviour and practices, then coaching strategies implemented must align with this desired outcome. In the present study, teachers in the coaching group experienced several coaching strategies that provided direct performance feedback related to desired teaching through play practices. These included: the use of graphic feedback (e.g. visually representing the frequency and fidelity of implementation of an identified teaching behaviour instigated by the teacher); in-vivo and post-observation supportive and constructive feedback; the use of teacher video to provide direct examples of the teachers' own instructional methods; and role-play strategies. As results from the post-intervention interviews showed, teachers in the W&C group commented specifically on the timing and nature of these supports, emphasising the importance of real-time support provided by the coach during focused observation and feedback sessions, the prompt receipt of written feedback post-coaching session, and the use of teacher-video to support reflective conversations with the coach.

The importance and preference, identified in the current study, for these types of supports and when they are delivered is consistent with PLD literature. For example, coaching provided real-time support and opportunity for teacher self-reflection and observation of students engaged in play. The debrief meeting supported teachers to think through how and why a new skill was used and its impact on their students' learning when engaged in play. Lloyd and Modlin (2012) refer to this process as *knowledge transfer* and suggest this is most successful when teachers and coaches are provided an opportunity for reflection, praise, critical feedback, and skill-building in private, quiet areas outside of the classroom setting. Weiland et al. (2018), in their meta-synthesis of PLD literature, highlight several studies in which coaches used real-time data to monitor the implementation of the key practices associated with the PD intervention (Mattera, Lloyd, Fishman, & Bangser, 2013; Mattera & Morris, 2017; Morris et al., 2014; Morris, Mattera, & Maier, 2016). These data then contributed to the focus of feedback given to teachers, and the guided reflective conversations related to teacher knowledge and application of play pedagogies in their classroom. Timperley et al. (2007) suggest that grounding learning in "the immediate problems of practice" (p. 43)

assists teachers to connect relevant pedagogical content and existing theories of practice. In the current study, it is the immediate (i.e., real-time) nature of this problem-solving (i.e., reflective discussion) that occurred during the coaching process that teachers indicated useful in building their knowledge of how the NZC learning areas can be supported within students' play.

The W&C group acknowledged the receipt of prompt written feedback in the follow up email as useful to the learning process, enabling them to recall coaching conversations and revisit key concepts identified during the debrief meeting. Shannon et al. (2015) noted similar findings in their study examining the perspectives of teachers engaged in PD which included training and coaching. Teachers reported that the personalised emails they received through their participation in Shannon et al.'s study repositioned them as knowledgeable teachers, capable of implementing the instructional practices that were the focus of the PD intervention.

In reviewing video taken of teacher interactions during the focused observation sessions, teachers in the current study were able to identify direct examples of curriculum learning areas within the play and reflect on this as part of the observation debriefing process. As a result, teachers indicated that their knowledge of the curriculum domains and their connection to student learning needs when engaged in play increased. Reviewing video afforded teachers the time to observe students' play in a way that they could stop, rewind and replay, reflecting on key themes and aspects of the play observed (Cherrington & Loveridge, 2014). The iterative process of reviewing video alongside the coach and engaging in reflective discussion assists teachers to build their knowledge of the curriculum as a working, rather than theoretical document (Baecher, McCormack, & Kung, 2014). When teachers heighten their awareness of what students engage in during play, they are then able to identify their role as teacher and their response to student learning needs in relation to the curriculum (Edge, 2011). The coaching strategy of reviewing teacher video is one component of PBC that provides teachers with the opportunity to make intentional connections between student play and their teacher knowledge of the learning areas of the NZC. Taken together, teachers' preferences for observation, coaching supports, and feedback that span multiple formats (i.e.,

visual, verbal, written, and video) and timing sequences (i.e., real time, on immediate reflection, and available to return to when needed or as a reminder) contribute to the growing body of PLD literature identifying the components of effective PLD interventions that enable teachers to improve their implementation of teaching practices within their classroom settings.

Uses student assessment data to inform practice and monitor impact on student outcomes.

When PLD incorporates the use of student assessment data to inform practice and monitor the impact of PLD on learning outcomes, teachers are responsive to student learning needs, particularly those students identified as not benefiting from traditional teaching strategies (Timperley et al., 2007). While student assessment data is not reported on in the current study, W&C teachers, during the coaching intervention phase, were supported to develop and implement observational assessment and reporting strategies on student progress when engaged in play. As the coaching intervention phase progressed, and teachers identified specific goals for their action plans, some included the implementation of narrative assessment as a focus for their practice. When this occurred, I supported the teacher to implement appropriate assessment practices relevant to the context of play and develop an understanding of how to observe and document learning through play occurring in their classroom. Post-intervention, all teachers were asked to comment on any impact the PLD had on the students' themselves. Both WO and W&C groups identified maturation of pro-social skills, positive oral language, increased engagement and motivation for school and learning, improved student voice and increased student fitness in their students, attributing these to the implementation of learning through play in the classroom. However, given the current study did not investigate the direct impact of teaching through play strategies on student learning outcomes, further investigation of these observations by the teachers would be useful.

Structural features of PLD. As discussed in Chapter Two, structural features of PLD are generally systemic components which support teachers to engage freely in the PLD without barriers to engagement or interaction (Timperley et al., 2007). These supports include the intensity, duration, and frequency of the PLD; the wider community of learners in which teachers can participate; and the general organisational

supports available to teachers to help enable a balance between workload and accessing new learning opportunities.

Intensity, duration, and frequency of the PLD. In the current study, teachers attended one workshop per week for four weeks in the workshop phase of the intervention. The coaching intervention phase ran for 18 weeks with teachers engaged in nine coaching sessions in total. During post-intervention teacher interviews, a key theme of timing and nature of supports emerged from WO and W&C groups. Both groups identified that due to the complex nature of the practices associated with teaching through play, the duration of participation in a PLD programme supporting these practices would need to be managed over a gradual period. Feedback from all the teachers indicated that the process of change was a challenging one and that consolidation of new knowledge and practices that, at times, challenged underlying teacher beliefs and values, was required in order to manage the process of new learning.

Teaching through play practices are complex and wide ranging and challenge teachers to reconsider the ways in which children learn, and their role, as teacher, in this process. The iterative nature of the coaching process supports the need for teachers to have time to embed and consolidate new practices and reflect on these in relation to their own teaching beliefs and values. While duration is an important consideration, it is the way in which time is spent engaged in PLD, rather than the amount of time spent, that impacts the outcomes for teachers and students (Timperley et al., 2007). Furthermore, the specific focus of the PLD may also influence the intensity, duration, and frequency of the PLD. Where the focus is on narrow or discrete teaching practices, shorter timeframes have produced successful outcomes in raising student achievement (Caulfield-Sloan & Ruzicka, 2005; Rowe, Pollard, & Rowe, 2005). In contrast, the complexity of teaching through play practices requires teachers to engage in substantive new learning that challenges their existing beliefs, values, and understandings that underpin their practice. The coaching process supports the need for teachers to have a gradual but ongoing engagement in PLD in order to address new learning as it arises within the context of their classroom environment, and the time to unpack this in relation to their previously held beliefs and practices.

While the outcomes from the current study indicate positive changes in teacher practices as a result of the coaching intervention, the nine coaching sessions offered in the current study were fewer than the recommended 12–14 sessions by Hemmeter et al. (2011) and Pianta et al. (2008). Artman-Meeker et al. (2014) suggest that future research is needed to investigate whether there is a “critical threshold” (p. 342) regarding the number of sessions needed for coaching to produce positive outcomes on teacher practice and student results. The nine sessions provided in the current study were done so in order to be manageable for both schools involved and to coincide with term time availability of staff. There was also an awareness of the cost to the school involved in releasing teachers from their classrooms, and while the school was supportive of the research, at the time of designing the intervention, I did not want to extend the school financially beyond this support.

Teachers in the W&C group, however, did indicate that the frequency and time in between coaching sessions felt appropriate. During term time, coaching sessions were held fortnightly with the W&C group. The research around the amount of coaching needed to support implementation fidelity of desired teaching practices is limited, however, some tentative conclusions are being reached regarding effective dosage rates (Snyder et al., 2015). Studies in which individual teaching strategies or small sets of teaching practices are the focus of the PD have, in general, required fewer coaching sessions in achieving implementation fidelity (Conroy et al., 2014a; Hemmeter et al., 2011). Where the focus of PLD is on complex or multi-component PLD interventions, such as the present study, a sustained and systematic follow up of coaching supports is required to achieve implementation fidelity (Fox et al., 2011; Snyder et al., 2012; Snyder et al., 2015). The current study provided 20 weeks of coaching support, with the teachers in the W&C group indicating this frequency assisted them to stay focused and avoid any drifts or plateaus in their practices.

Participation in a professional community of learners. Teacher engagement within these workshops created a localised professional community for the teachers, with those involved reporting they found the shared interaction during the workshop sessions to be beneficial. Although the teachers in the current study noted the benefits of participating in this community as part of the workshop intervention,

Timperley et al. (2007) caution that such learning communities are not sufficient in and of themselves to impact positive change on teacher practices and as such, student outcomes. Timperley et al. provide examples where professional learning communities, both with and without external expertise, can reinforce collective knowledge and practices, even when these are mis-informed or incorrect.

In the current study, the 'community' of teachers involved were able to draw on each other's collective knowledge in resourcing for play and share ideas about the establishment of their learning environments. Workshops were held alternately between both schools involved in the study, with teachers able to share their learning environments with others. The findings suggest that the establishment of a learning environment conducive to teaching through play involves discrete, observable, and actionable knowledge on the part of the teacher. As such, participation in a learning community such as that created during the workshop intervention phase, benefited teachers by increasing their knowledge about the effective environmental components that support play pedagogies. Each workshop was facilitated by the external expert providing the PLD, thus safeguarding against the sharing of misinformation as cautioned by Timperley et al. (2007). The addition of non-workshop-based communities of learners, such as monthly meet-ups during or after the coaching phase or other forms of teacher collaboration models, were not explored in the present study but may provide further benefit to support teachers' sustained implementation of effective play practices.

Organisational supports. The role school leaders have in the success of PLD interventions and the way in which they facilitate organisational support for teachers was not a focus of this study. However, I did connect with both school leaders involved and shared with them all the notes and handouts from each workshop session. Prior to the intervention beginning, the way in which teachers were to be released for their coaching sessions was also discussed with the school leader involved. Each principal ensured that teachers were able to be present for the PLD and engage in this without interruption. The way in which teachers are supported to engage in PLD is an important point of consideration for teachers wishing to

ensure their PLD has the likelihood of being sustained and supported within the wider school environment.

Stein and Nelson (2003) argue that:

... principals must not only be capable of providing professional development for their teachers, but also have the knowledge, skills, and strength of character to hold teachers accountable for integrating what they have learned in professional development into their ongoing practice (p. 425).

Organisational supports, provided to the teachers involved in this study, included: time to attend workshop sessions during school hours; time to meet with coaches during school hours; budget provision for resourcing materials for play; and opportunities to take a lead role in sharing information from the study with the wider school teaching community. However, the extent to which this occurred, and its impact on teacher learning and practice was not included within the current study outcomes.

Play-based teaching and learning and PLD features. There is a growing body of PLD research focused on identifying the components of effective PLD interventions that enable teachers to improve on the fidelity of their teaching practices within their classroom settings. McCollum and Catlett (1997) discuss the relationship that exists between what teachers know and what they can do (i.e., implementation of evidence-based practices). Advocating the need for teachers to be actively involved in new learning, rather than passive recipients of new ideas and knowledge, McCollum and Catlett suggest that positive outcomes associated with PLD are influenced by

the extent to which the learning activity allows the participant to experience knowledge, skills, and attitudes in the same way they will be required in the work setting (p.115).

A play-based learning environment, when implemented effectively, can look distinctly different from that of the traditional classroom setting. Students will spend less time seated at desks and tables, and increased time actively engaged with peers in small and large groups (Epstein, 2014; Walsh et al., 2007; Whitebread, 2012). Learning will occur both inside and outside the classroom, with one of the most prominent changes required of teachers being the type, accessibility, and management of resources available for students in their play. The selection and storage of both small and large loose parts (Bodrova

& Leong, 2003; Dillon, 2018; Gauntlett, 2011; Gauntlett et al., 2013; Nicholson, 1972; Resnick & Silverman, 2005), often reusable, multi-purpose or recyclable 'bits and pieces', is a key focus for many teachers first implementing play pedagogy. Increasing the amount and availability of these resources, often viewed as 'junk' by those unfamiliar with their use in student play, is a key step to enabling increased levels of child-guided play in the classroom setting (Resnick & Silverman, 2005; Sear, 2010).

During the workshop intervention phase of the current study, the importance of these resources and their positive impact on student learning was reviewed, with teachers supported to build their knowledge of this type of resourcing. Challenges such as storage, and ways to manage student interaction with loose parts were problem-solved within group discussion. As a result, changes in the practice of resourcing play effectively were noted post workshop intervention, with the greatest rate in change occurring between the completion of the workshops and Week 3 of the coaching intervention phase. At the conclusion of the study, changes to the way teachers resourced and managed the learning environment, both in the WO and W&C, groups were the greatest of all practice changes observed post-intervention.

This suggests that resourcing the play environment (i.e., setting up for play) requires less intensive PLD support than pedagogical areas such as implementing intentional teaching strategies. Both WO and W&C groups demonstrated knowledge of the value loose parts have in supporting students' play and the positive outcomes associated with including loose parts in the classroom environment. In practice, they ensured the environment had the types of resources needed for students to engage in play. Timperley et al. (2007) suggest that the use of workshop training PLD or one-day professional development models may provide teachers with the opportunity to translate relatively discrete items of knowledge or skills into practice. However, Snyder and colleagues (2012) indicate that the type and intensity of PLD experiences should align with the desired outcomes for the PLD. That is, the more complex the knowledge or skills desired from the PLD, the more the need for experiential forms of PLD, including the provision of systematic follow up of implementation supports (Bruder, Mogro-Wilson, Stayton, & Dietrich, 2009; Diamond & Powell, 2011; Snyder & Wolfe, 2008).

The findings of the current study suggest that teachers require less intensive implementation support in order to establish an effective play environment within their classroom setting. By participating in the workshops, and without ongoing coaching support, the workshop-only teachers created learning environments that facilitated the opportunity for children to engage in play, and ensured play was well-resourced within their classroom. However, those within the W&C group made significant changes to their learning environments and reported a recognition that teaching through play was more than the establishment of the learning environment. W&C teachers acknowledged that workshops provided the theory, however, more intensive implementation support, provided through coaching, enabled them to move beyond the practicalities of the learning environment and address their teaching behaviour while children were engaged in play.

In developing a plan to improve specific areas of teacher behaviour and practice, as a coach, I collaboratively supported each W&C teacher to identify areas of strength and areas of need, related to the set of evidence-based teaching practices guiding the coaching process (i.e., Practice Implementation Checklists). This collaboration included teacher self-reflection in combination with data collected through my focused classroom observations. Captured in an action plan, specific, measurable, and observable goals related to teachers' practices were defined. These goals, based on evidence about what learning or behaviours are or are not occurring, provided motivation to address the implementation of desired practices and self-regulate teacher behaviour (Butler & Winne, 1995; Timperley et al., 2007). Focused observations used to guide the goal setting and creation of action plans often contradict reported use of newly acquire practices (Noell et al., 2005). Including focused observation data in the planning process assists teachers to improve rates of implementation fidelity directly related to the desired goal and action plan steps.

As the coaching intervention phase progressed, W&C teachers were encouraged to further reflect on their use of their focus practices in relation to the observational data collected through the coaching process, and to celebrate success of implementation or adjust their practices to better align with the desired goal identified on their plan. The action plan provided a focal point for this collaborative process, with initial

goals and small action steps designed to provide a foundation for the implementation of more complex practice goals, as teachers built their capability and skill set (Snyder et al., 2015). The W&C teachers reported that this plan enabled them to sustain a focus on their desired goals, and that they would return to the plan to re-orientate themselves to their goal as required, between coaching sessions. Frates, Moore, Lopez and McMahon (2011) suggest the action plan operates as an 'accountability' plan and works best when the goals and action steps are tailored to the individual's learning needs. The results in the current study indicate teachers found the action plan useful in providing them with a planned direction, while keeping them grounded in a clear focus for their teaching practice. Teachers indicated that the coaching process, and the focused use of the action plan, enabled them to move past the theory and into the implementation of key practices with confidence.

Given the multi-faceted set of practices associated with play-based teaching and learning and the differences between play-based approaches and traditional classroom teaching practices, engaging in play pedagogy may require teachers to make substantial shifts in their knowledge, skills, and attitudes. As New Zealand teachers and schools look to embrace more play-based approaches, there is a critical need to ensure effective, multi-faceted, and well matched PLD approaches and implementation supports to ensure play pedagogies are implemented effectively and result in positive learning outcomes for students (Fox et al., 2011; Milne & McLaughlin, 2018; Pianta et al., 2008).

Summary. This study has identified differences in teacher confidence, knowledge, behavior, and teaching practices as a result of the outcome of two PLD interventions engaged in by teachers intent on developing effective play pedagogies. Engaging in workshop-only learning opportunities supported teachers in the 'front-loading' of new knowledge and concepts. Workshop-only PLD is a useful strategy when the goal of PLD is to acquire new knowledge of a specific or discrete teaching approach, curricula area, or skill set. However, when the desired outcome of a PLD intervention is to move beyond the establishment of a learning environment that supports children's play, to improve the fidelity of teaching practices within the environment, repeated opportunities to apply knowledge and receive performance feedback directly related

to the context in which the practices are being applied, ensures greater rates of implementation fidelity. The impact of PBC in the current study is most notable when examining the post-intervention teaching behaviour and practices of those involved in the coaching group. The complexity of effective teaching through play practices calls for more intensive forms of PLD that consist of processes and strategies clearly aligned with desired learning outcomes for teachers in both their knowledge and practice. Using frequent engagement in performance feedback, and drawing on real-time classroom observational data, teachers, in collaboration with their coach, can identify manageable steps towards desired changes in their practices. Teachers report increased confidence in their ability to teach through play effectively, identifying associated positive outcomes for students in their learning, and attribute this to the PBC process.

Chapter Summary

This study has presented evidence of pre-intervention beliefs held by teachers on the use of play and the practices of teaching through play at the primary school level. It identifies a discrepancy between what teachers believe about the value of learning through play, and what they know about effective teaching through play. Furthermore, it highlights a significant lack of confidence and knowledge regarding the application of the NZC when implementing play pedagogies in the primary-school setting. Given the increasing popularity of play-based learning approaches in the school setting, it is important to consider how to support teachers in addressing this discrepancy and increasing their knowledge and teaching behaviour and practices, in order to ensure the achievement of desired outcomes associated with learning through play. Teaching through play is a complex pedagogical approach, drawing on a combination of teacher belief, knowledge, behaviour, and practices, that requires intensive PLD support over an extended period. Drawing on a set of evidence-based teaching practices to guide teachers in their new learning, provides teachers with a set of observable and clearly defined teaching practices that, if implemented with fidelity, will contribute to positive learning outcomes for their students. While workshop-only style training may address some areas of teacher knowledge, and 'front-load' this knowledge for teachers, it is the combined inclusion of a coaching model, focused on the effective implementation of the evidence-based effective teaching

practices that would appear to have the most impact on teaching through play. The findings of the current study add to a growing body of local and international research calling for evidence-informed professional development models, such as practice-based coaching, to be implemented as the preferred method of professional learning support for teachers.

Chapter 6

Conclusion

There is a growing interest in play-based learning in New Zealand primary schools. With the use of play increasing in junior classrooms, there is an urgent need to ensure effective teaching through play practices are used to ensure positive student outcomes and learning. The present study sought to address that need by examining teachers' beliefs and knowledge about play and the relative impact of two PLD approaches on teachers use of effective teaching through play practices. This concluding chapter includes a summary of the study focus, methods, and findings. This summary is followed by a reflection on the learning I have engaged in as a new researcher. Subsequent consideration is then given to the strengths, limitations, and delimitations of the current study, followed by a discussion on the implications of the findings on policy, practice, and future research. Key points from the study, findings and implications are then provided in a concluding statement.

Study Summary

This study focused on teachers' teaching through play beliefs and knowledge, and how PLD can be designed to support teachers to use effective teaching through play practices in the primary classroom context. The study had two key objectives:

- to identify New Zealand primary school teachers' beliefs about, and knowledge of, play and how teachers use play as a pedagogical tool in the primary classroom context
- to investigate the impact of two professional learning and development (PLD) models, workshop-only PLD and workshop and coaching PLD, on the implementation fidelity of play-based pedagogies in the primary school classroom.

Teachers' beliefs, experiences, and classroom practices are complex. In the present study what teachers believe and know about play, how they feel about the PLD they receive, and how these things

impact their teaching practices were all important considerations. As a result, the study was centred on three research questions, which were:

1. What are primary teachers' play-based teaching and learning beliefs and practices?
2. How does participating in a PLD programme, with and without on-going coaching supports, impact teachers' beliefs and practices in a play-based school environment?
3. What are teachers' perspectives of participating in a PLD programme, with and without coaching?

To address these questions, a mixed methods intervention design was applied, drawing on the strengths of both quantitative and qualitative data collection and analysis methods (Creswell & Creswell, 2018). The intervention design comprised of four sequential phases with qualitative and quantitative data collected at each phase across two groups. These phases were identified as 1) pre-data collection; 2) workshop intervention; 3) coaching intervention for the workshop plus coaching group (or no coaching for the workshop only group); and 4) post-data collection. The frequency and intensity of change in teacher practice when engaged in one of two PLD intervention conditions was measured quantitatively through the use of focused classroom observation data, collected using a researcher-designed observation tool, the Play Based Learning Observation Tool (P-BLOT) (Aiono & McLaughlin, 2018). Focused classroom observations occurred during phases one, three, and four of the intervention study. Qualitative data was collected to identify the beliefs of teachers implementing play pedagogies, as well as their perspectives on engaging in the intervention itself (Creswell & Creswell, 2018). Qualitative data sources included teacher questionnaires, administered during phases one and four; workshop evaluations completed during phase two, and semi-structured teacher interviews conducted during phase four of the study.

During phase one, the pre-data collection phase, teachers completed the teacher questionnaire. Questionnaires are useful in enabling researchers to identify teachers' attitudes and beliefs, knowledge, values, and teaching preferences (Tuckman & Harper, 2012). The teacher questionnaire asked the participants to identify their beliefs and knowledge about teaching through play and describe their teaching through play practices, prior to their engagement in the intervention process. Additionally, focused

classroom observations were undertaken by me, as researcher, in order to gather information related to the teaching practices of the participants during this phase.

The second phase, workshop intervention, comprised of four workshop sessions with all the teachers involved in the study collaboratively engaged in this stage. The workshops provided teachers with opportunities to build their knowledge and understanding of evidence-based play pedagogies, and to trial this new learning in their classrooms between workshop sessions. As a group, the teachers were encouraged to work as a professional learning community, sharing ideas and experiences with each other across the workshop phase. Workshop evaluations, constructed in the form of a questionnaire, were administered at the conclusion of each session. These evaluations monitored the efficacy and relevance of the workshop material for the participants, with data collected indicating all teachers were engaged and motivated to connect and learn through the workshop process. Teachers indicated they found the content relevant to their learning needs, spending time on the homework tasks required of them, returning prepared for the subsequent workshop sessions.

In the third phase, coaching intervention, School A was randomly assigned to the workshop only (WO) study condition and School B to the workshop and coaching (W&C) study condition. WO teachers were encouraged to apply the knowledge of teaching through play practices, gained during the workshop phase, into their practice but were not provided with ongoing support to do so. W&C teachers received practice-based coaching (PBC) with a trained coach to implement teaching through play practices in their classrooms, over a 20-week period. Coaching occurred fortnightly, with W&C teachers supported by their coach to address identified goals in their play pedagogies. During this phase, I conducted further focused classroom observations of all study teachers (i.e., WO and W&C teacher groups) during week three and week seven of the coaching phase. Again, drawing on the P-BLOT, the observational data collected was analysed post-intervention to track changes in teachers' practice during the coaching phase, and compare this with the data collected during the pre-intervention phase.

In the fourth and final phase, teachers completed the teacher questionnaire first administered in phase one, and focused classroom observations were once again conducted utilising the P-BLOT. In addition, semi-structured teacher interviews were conducted with an independent interviewer. Interview methods have been identified as useful to gain data related to opinion, motivation, and experience of those involved in a study, sometimes difficult to collect through observation (Tracy, 2013). The aim of the interviews conducted in the current study was to identify post-intervention teacher perspectives on the use of play as a teaching and learning tool in the classroom, the observed outcomes of this pedagogy on their students, and any enablers or challenges they experienced in implementing teaching through play. In addition, the interview data provided information on the experience and perspective of the teachers involved in the PLD intervention and enabled identification of different perspectives between those who received coaching (W&C) and those who did not (WO).

The study found, prior to commencing the intervention, a tension between what teachers believed and knew about play as a pedagogical tool, and how they were implementing play practices, with fidelity, in their classroom. Overall, teacher questionnaire data indicated teachers strongly agreed that play was a useful pedagogical approach to support children's learning but indicated several barriers to their confident and effective use of play practices within their classroom settings. These barriers included resourcing (such as the cost and management of the physical environment), curriculum coverage, their own knowledge, skill-set and personal workload, Education Review Office visits, and parent perceptions of learning through play. In short, teachers believed that learning through play was important for their learners and that they were implementing teaching through play practices in their classrooms, but they lacked confidence in their ability to apply play pedagogies with fidelity to their teaching practices. Focused classroom observation data undertaken prior to the intervention supported the questionnaire findings, indicating, overall, a low level of teaching through play practices across the participants involved in the study. While teachers reported the regular facilitation of learning through play in their classrooms, observational data collected at this pre-intervention phase indicated a varied understanding of what their role was in this, and how play could be

used pedagogically to support children's engagement with the New Zealand Curriculum (NZC) (Ministry of Education, 2007).

Teachers' beliefs and knowledge about effective play pedagogies were found to be positively influenced and enhanced as a result of their engagement in the workshop phase of the project. All teachers reported that the workshop phase assisted them to unpack the use of the NZC to support the affective and cognitive domains of their students' development. Both WO and W&C groups felt more confident in their ability to connect the key competencies and values of the curriculum to student learning through play. In addition, they indicated that by participating in the workshop series, they were further motivated to implement teaching through play in their classrooms.

Teacher behaviour and practices, however, were variably influenced by participating in one of the two study conditions in phase three (i.e., workshop only [WO] and workshop and coaching [W&C] PLD), with differences between groups emerging in the observational data collected. Focused classroom observations of the WO teacher group, conducted during and at the conclusion of the coaching phase, indicated that while teachers reported increased confidence in their teaching through play knowledge, this did not translate into increased frequency of effective teaching through play practices following the conclusion of the workshop sessions. Participating in the workshop phase, without ongoing coaching support, appeared to benefit teachers in areas that required less intensive implementation support, such as creating learning environments that facilitate the opportunity for children to engage in play (i.e., the resourcing and management of the classroom setting). However, it was the W&C group that made observable progress in the way in which they intentionally taught the curriculum through play and responded to students' learning needs, while maintaining a balance of child-guided and adult-guided play. The W&C group recognised that teaching through play was more than the establishment of a learning environment, acknowledging that while the workshops provided the theory or 'front-loading' of pedagogical knowledge, the coaching enabled them to address their teaching behaviours and practical implementation of play pedagogy as a result. Furthermore, they reported increased confidence in their knowledge of play

pedagogies and their ability to implement and sustain these new practices over time. Teachers in the W&C group attributed the coaching process to their increased levels of knowledge of the NZC and their ability to connect the NZC to their students' play in the classroom. The W&C teachers were confident in articulating their practices and knowledge and the impact on student learning as a result of the play pedagogies implemented. In contrast, WO teachers continued to express a lack of trust in the use of play pedagogies, and their ability to implement these in a way that positively impacted student learning at the conclusion of the intervention. While WO teachers made some adjustments to their teaching behaviours and practices, observational data indicated that either this progress was not sustained over time, with teachers returning to less desirable pre-intervention practices, or reaching a practice plateau, with no observable continuation of progress occurring across the later phases of the study.

Several key coaching components identified by the teachers during the study influenced the changes in the teaching practices of the W&C group. W&C group teachers indicated key coaching strategies such as modelling, videoing, and reflecting on teaching practices, supportive and constructive feedback, goal setting, open-ended questioning, and reflective conversation as useful in assisting them to refine specific areas of their teaching practices. These findings reflect similar coaching strategies identified as impacting teacher practices in international studies investigating the implementation of PBC PLD (Artman-Meeker & Hemmeter, 2012; Fox et al., 2011; Hemmeter et al., 2011).

Researcher Journey

Having discussed and summarised many of the findings reached in this current study, it is pertinent to consider how the research process has contributed to my own growth as a researcher. In doing this, I will draw on the Researcher Development Framework (RDF) (Vitae, 2010) created in the United Kingdom in 2010. The RDF identifies a range of qualities, attributes, and descriptors useful in determining researcher capacity (Bhakta & Boeren, 2015). This section will reflect on this journey in relation to the four RDF domains, namely (a) knowledge and intellectual abilities, (b) personal effectiveness, (c) research governance and organisation, and (d) engagement, influence, and impact.

Transitioning from practitioner to researcher. In beginning my EdD journey, I did not consider myself a researcher and firmly placed myself as a classroom practitioner interested in pursuing a subject area I was passionate in learning more about. After completing my master's degree in 2010, I had quickly returned to the school setting and conducted no further research. As an itinerant teacher, I was becoming increasingly despondent at the shifts and changes in education policy that I felt did not offer a developmentally responsive or differentiated approach to students identified as 'underachieving' or 'at risk'. I was particularly interested in how to address the growing need schools had in supporting students' social and emotional skill development and could see, in my role as a Resource Teacher of Learning and Behaviour, that there was a gap between what teachers knew, and how and what they did in the classroom. This was compounded when I became involved in the Ministry of Education's Positive Behaviour for Learning initiative, as a member of the National Practice Group for the delivery of the Incredible Years for Teacher (IYT) programme in New Zealand primary schools. While the IYT programme was received positively by most schools, the in-classroom support for its use did not appear to address issues of fidelity of implementation and ongoing sustained practices. Because of this, I wanted to investigate what approaches to teaching would best support children's social and emotional development and how teachers could be supported to implement these in the most effective ways. As I pursued research avenues with Massey University, my understanding of the shift from practitioner to researcher began, as I was encouraged to define and isolate my topic of research by my supervisors. While I began this journey as a practitioner passionate about play pedagogy, the questions I began asking enabled the realisation that this study had moved from reading the literature around play and its benefits, to shifting into the area of researching how teachers can be supported effectively in their professional learning and development. It was this moment where I felt the shift from classroom practitioner to education researcher.

Knowledge and intellectual abilities. While this research provided me with a range of learning opportunities, the area of knowledge in which I grew substantially was collecting and analysing data using a mixed methodological approach. Prior to this research, I had limited experience in mixed methodology

research, and initially felt quite overwhelmed with the research design I was undertaking. My EdD research provided me with the opportunity to develop and apply a range of data collection tools, including online surveys, teacher observations, and individual interviews, and to build my understanding of their use in a mixed methods research design project. While I was passionate about being a qualitative researcher, it was the construction and use of the Play Based Learning Observation Tool (P-BLOT) (Aiono & McLaughlin, 2018) that provided the most significant growth as a researcher. Through the design, piloting and implementation process I developed an appreciation for observable data and its value in determining specific teaching practices present in effective play environments. In addition, the thematic analysis of the interview data and its comparison to that of the observational data gathered through the P-BLOT pre- and post-intervention observations was a significant but rewarding challenge. With assistance and guidance from my supervisors, I was able to learn how to narrow the wide-ranging themes identified in the interview data and begin to identify patterns and themes as they emerged.

Personal effectiveness. As my research journey developed, so too did my professional journey as a provider of teacher PLD in the area of play pedagogies. This study enabled me to combine my passion for play with my skills as an advisor to teachers wishing to understand how to be effective teachers in play settings. My learning informed my professional practice and I set about passionately advocating the combination of the importance of play and sound PLD provision. As the study concluded, I found myself engaging in repeated opportunities to advocate the importance of evidence-informed PLD provision for teachers, and seeking out opportunities to share the importance of teachers receiving support to embed play pedagogies with school leadership, Ministry of Education representatives, and wider parent communities. My EdD research has provided me with the confidence to utilise opportunities in my professional career to address the gap in New Zealand PLD provision for teachers, and to persevere in providing research-based PLD for teachers to ensure effective teaching through play pedagogy is implemented in New Zealand classrooms.

Research governance and organisation. This domain addresses my professional conduct, research management and resources involved in my study (Vitae, 2010). As an emerging researcher, I was cognizant of my behaviour both ethically and professionally as a researcher within the school context. In addition, the EdD process enabled me to work alongside my two supervisors in a way in which I had not previously experienced research supervision in my master's level study. Appropriate supervision practices, undertaking responsibility for, and adhering to, academic expectations and regulations were all an area of growth for me over the study period. As the study concluded, exploring issues of copyright, confidentiality, attribution, and co-authorship around the use of the practice-based coaching model, and the creation of the P-BLOT resource have all increased my knowledge in this research domain. I am excited to explore, post-study, the ways in which the findings from this study, including the P-BLOT resource, can be shared with teachers in practical terms, and in doing so, I recognise there will be ongoing development of my knowledge in these areas of professional conduct.

Engagement, influence, and impact. While the implications of the outcomes of this study are discussed in significant detail further in this chapter, this section of the RDF addresses how the researcher will work with others to ensure a wider impact of the research is achieved (Vitae, 2010). Prior to conducting this research, I developed sound skills as a communicator, presenter, and advocate of quality teaching practices in the schools I worked in as a school leader, itinerant teacher, and PLD facilitator. I was regularly acknowledged as an effective teacher mentor and guide, and I enjoyed sharing any new learning I had undertaken with those receptive to the information. I acknowledge, however, that the biggest growth in this area, as a result of my EdD journey is the need to be succinct and clear in the points I intend to make. This growth is a continual work in progress, and most definitely will continue. My supervisors have demonstrated significant patience for this part of my learning journey. As the study concludes, I am excited to face the next challenge of communicating and disseminating my findings through various academic publications, as well as learning to navigate the varying requirements of journals, online publications, seminars, and conference presentations. This will continue to foster my learning in succinctness and clarity.

Finally, both personally and professionally, I have learned and grown in my ability to receive criticism and critique of my work. At a time in which teaching through play is relatively new to the primary school context, I find myself on the front-line of varying opinions, both informed and ill-informed. Through this research process, I have learned to accept challenging, useful, and helpful critique and value it as contributing to my growth as a researcher. Collaboration with those similarly enthusiastic about effective PLD provision and play pedagogy has assisted me in creating a network of support, whereby this criticism is valuable and useful as a peer review process.

Future goals. As a result of my EdD study, I am excited to acknowledge I have transitioned from practitioner to researcher. As the research concluded for this study, I have found myself asking more questions and considering possible future research as a result. I have identified further gaps in research and knowledge within the New Zealand context, which I would be interested in exploring in future research.

I intend to use every opportunity to publish the findings of this study so that teachers passionate about play can benefit from the P-BLOT tool and the examples of effective practices in the primary school context. Furthermore, I hope to use these findings to continue to educate the wider school community on the value of practice-based coaching as a PLD tool, and attempt to shift the status quo and general acceptance of one-shot style trainings and workshops in New Zealand PLD provision. In my current professional role as a PLD provider with Longworth Education, I am engaging in more opportunities to influence teacher practices, as well as school leadership understanding of effective PLD provision.

Strengths, Delimitations, and Limitations of the Study

The current study set out to measure the impact of a PLD intervention approach on the beliefs, perspectives, and practices of teachers teaching through play in the New Zealand primary classroom setting. As with any research, there are delimitations, limitations, and strengths identifiable in the methodology and resultant outcomes. This section acknowledges these aspects of the study and where appropriate makes recommendations for how the findings of the current study should be interpreted.

Delimitations. This study draws evidence from a small sample of teachers and small group effect replication is unknown. The study, therefore, does not attempt to generalise or compare results to the general or larger teacher population. This is important to acknowledge given the variability of belief, knowledge, and skills within the wider teacher population. A larger sample may represent a broader range of teachers with varying experiences, knowledge, and beliefs about play and have greater potential in identifying generalised results related to the outcomes of the PLD intervention.

The research design is a small-group mixed methods intervention; therefore, the results are descriptive, rather than experimental. Findings have been presented as comparative descriptive summaries of the two teacher groups, rather than as statistical differences. While all reasonable steps were taken to control for internal and external validity, the findings support the need to conduct further research, such as randomised controlled studies, in which group outcomes can be compared statistically, and stronger claims regarding the efficacy of the intervention can be made.

Teacher play pedagogies, and the resultant impact of a PLD intervention on these, were the primary foci of this research. While this study does refer to teacher testimony on the impact of their use of teaching through play on student learning, the study did not seek to measure or analyse the impact on student outcome as a component of the findings. The impact of play pedagogy on the learning outcomes of students was not the primary focus of the study and is, therefore, not reported in the findings. Future research that combines measures of teacher practice change, and any subsequent impact on student learning outcomes, will contribute to understanding the efficacy of the intervention further.

Strengths. The combined use of quantitative and qualitative data methods in this study provided more complete answers to the research questions than would have been possible if either approach was used in isolation (Creswell & Creswell, 2018). The combination, of focused classroom observations, questionnaires, and semi-structured interviews, allowed for the overall analyses of data collected pre-, during and post-PLD intervention, and the drawing of inferences from the evidence, to answer the research questions (Teddlie & Tashakkori, 2009). Qualitative data, such as the questionnaire findings and semi-

structured interviews, assisted in identification and description of the knowledge, attitudes, and beliefs of teachers related to play pedagogies (Tracy, 2013; Tuckman & Harper, 2012). Used in combination, the two methods enabled a descriptive summary of teachers' experiences in engaging with the intervention, supporting wider research findings within PLD literature related to the identification of effective PLD components likely to support sustained change in teacher practices.

Quantitative data collection was supported with the use of the researcher-developed observation tool, the Play Based Learning Observation tool (P-BLOT) (Aiono & McLaughlin, 2018). In the absence of a clear set of evidence-based teaching strategies, and a way to measure practices focused on teaching through play, the P-BLOT was designed to observe and track changes in teachers' practices within a New Zealand primary-school play-based classroom environment. The process in establishing this set of teaching practices began with a detailed review of the literature associated with the features and characteristics of play-based learning practices and enabled key teacher behaviours to be identified as a source for practice indicators identified within the P-BLOT. While the limitations related to the use of this tool are acknowledged further below, the construction of the P-BLOT provides researchers with the opportunity to observe and quantifiably measure the types of teaching practices associated with effective play pedagogies. Furthermore, the P-BLOT reflects the language, culture, and context of New Zealand primary classrooms, while aligning play pedagogies with national curriculum expectations.

Limitations. While the mixed methods research design has strengths, there are several limitations within the research design that require consideration. These limitations include the inequivalence and small sample group size, the use of a study-developed measurement tool, my dual role as researcher and interventionist/coach, and my coaching skills and experience levels.

Teacher attrition in any research provides a significant challenge in involving participants reflective of the wider teacher population. The current study sought to locate an equal number of teachers to participate in the workshop only and workshop and coaching intervention groups. However, as the study commenced, two teachers from School B withdrew from the research, having resigned from their teaching

positions to accept employment elsewhere. A third teacher, from School A, took long-term sick leave and was unavailable to commence the intervention. As a result, the numbers of the participants from both schools reduced, and an inequity eventuated when the schools were assigned to each of the study conditions. This limited the opportunity to generalise the results to a larger population of teacher groups, whose characteristics may be different. Furthermore, the size inequity between groups may have impacted the way in which change rates in teacher practices were compared. Averages for the workshop only group represented the average of two teachers and averages for the workshop and coaching group represented the average of four teachers.

A second limitation of the present study was the use of the researcher-developed observation tool, the P-BLOT. This tool was constructed, piloted, refined, and tested prior to the finalisation of a research version used for the purpose of this study. While the development of the P-BLOT followed a reasonable process to ensure the reliability and validity of the data collected using this tool, the P-BLOT has not been independently assessed under rigorous conditions for quality of measurement. The quality of this newly designed tool is as conducted within the context of student research; further enhancements and assessments of the tool would be warranted. Suggestions for the refinement of this tool are discussed within the recommendations for further research section, later in this chapter.

A third limitation recognises my dual role as the researcher and interventionist/coach. As researcher, I collected data throughout the study phases and, as interventionist/coach, facilitated the workshops and implemented the practice-based coaching. The dual role was managed by indicating clearly to teachers when I was collecting data, the intent of each classroom visit, and how this differed from their engagement during a coaching session. Despite this, my dual role may have introduced bias in data collection. The IOA data addresses this concern, with percentages of agreement consistently high across teachers. Another concern raised by my dual roles was, because I was their coach, teachers may have implemented the desired practices when I was in their presence as researcher; that is, when I collected data for research purposes. While not addressed in this study, future replication of this research may benefit from

observers collecting study data through blinded randomised controlled study designs, to ensure teachers do not change their practice during observations simply because they know their coach is present.

Finally, I have significant experience in teacher PLD provision, and knowledge of effective play pedagogies. Workshop evaluations indicated teachers valued the way in which the content was facilitated, and teachers in the coaching group indicated the value they placed on their relationship with me, and on my ability to support the development of their teaching through play practices. My experience and skill may have contributed to the favourable evaluations and positive perspective on engaging in the PLD intervention. The use of an intervention implemented by less experienced facilitators may contribute to dissimilar outcomes, should the intervention be replicated.

Implications for Practice and Policy

Practice. The study provides an original contribution to knowledge about the teaching practices of play pedagogy in New Zealand primary school classrooms. It identifies a disparity between what teachers believe and know about the value of teaching through play for their students, and their implementation of teaching practices associated with effective play pedagogy. In addition, it highlights a lack of confidence and knowledge regarding the application of the NZC when implementing play pedagogies in the primary school setting. There is a need for teachers to engage in effective evidence based PLD that addresses the disparity between belief, knowledge, and practice, and supports teacher knowledge and application of the NZC in the context of teaching through play.

Effective PLD for teachers needs to be evidence-informed and designed to support the use of play as a teaching tool in the primary classroom. The findings from the current study support the literature identifying the value of more intensive PLD support over an extended period, to ensure the implementation fidelity of the complex teaching practices required when teaching through play. Workshop-only style training does not address the need for teachers to move from theory about teaching through play, to the practice of implementing play pedagogies with confidence in their own classroom settings. PLD that combines workshop and coaching interventions has the potential to address the way in which teachers effectively

implement play pedagogies, and challenges teachers to consider the importance of intentionally teaching the curriculum in a classroom setting that enables both child and adult-guided play experiences.

PLD that draws on evidence-informed coaching models is not widely offered within the New Zealand education sector. Annually, as part of the teacher appraisal cycle, many teachers are expected to engage in a professional learning inquiry, either by addressing a school-identified area of focus or nominating an area of interest teachers wish to research related to their own professional learning. For many teachers, this assists in identification of theory related to pedagogy and a growth in knowledge of practice, by reconnecting with literature associated with their identified inquiry topic. The inquire-and-reflect approach is supported by attendance at workshop style training and conference PLD models, the predominant and popular form of PLD delivery in New Zealand (Timperley et al., 2007). However, as identified in the current study, attendance at workshops alone does not support and sustain changes in areas where complex teaching practices are required (Joyce & Showers, 2002; Timperley et al., 2007). Teachers require PLD that addresses the research-to-practice gap by supporting them to connect their new knowledge, theory, or skills to their daily classroom practice. The findings of the current study demonstrate that the inclusion of evidence informed coaching PLD assists teachers in implementing complex teaching practices and sustaining changes in practice over time.

Given the growing international evidence supporting the use of coaching, it is useful to consider several possible factors influencing the lack of engagement with coaching in New Zealand. Firstly, coaching requires significantly more time commitment from schools and teachers than that of workshop style training. Workshop attendance is usually offered as a short, sometimes one-off time commitment. Increasingly teachers are engaging in PLD on weekends or school holidays, thereby reducing the likelihood of disruptions to the school timetable and the cost involved in employing a substitute or relief teacher. Coaching models require the engagement of teachers over a more intensive time period. In the current study, teachers were engaged in coaching fortnightly over a 20-week period. As part of the coaching process, teachers require time to meet with their coach post-observation, for between 30–60 minutes. Schools who have restricted

organisational supports in place may find it difficult to provide release time for teachers to engage in these debrief sessions. This can put additional pressure on teachers, who then schedule meetings during break times or after school. Teachers' successful engagement in coaching requires school leaders to actively support the professional learning of their staff. In practice, this means leaders will ensure organisational arrangements are put in place so that teachers have access to relevant expertise and will have opportunities to learn, including meeting with coaches to process new information (Timperley et al., 2007).

Secondly, more intensive forms of PLD, such as coaching interventions, require additional human and material resources, therefore increasing the overall cost to schools. Schools leaders, when looking to engage in PLD initiatives, often look for ways to ensure the maximum impact on teacher professional learning within the confines of a restrictive PLD budget. While one-off workshop and conference-style training are attractive, often because a lesser financial investment is required by schools than for sustained PLD, school leaders are encouraged to consider the long-term cost of funding largely ineffective PLD opportunities, when seeking to implement evidence-based teacher practices. Engaging in evidence informed PLD, such as the practice-based coaching model implemented in the current study, does cost more money. Workshop and conference-style training is useful in supporting what teachers know and understand about desired teaching practices, however, the findings of this study supports the evidence that coaching results in positive changes in teacher practices that are sustained over time. By comparison, those engaged in workshop only PLD either plateau or regress back to pre-intervention, less desirable teaching behaviours. Therefore, it is essential for school leaders to carefully consider where to target funding for teacher PLD, so that outcomes of their financial investment include observable and measurable changes in teacher practice that can be sustained over time. When managing a limited resource, such as funding, the return on investment should be a contributing factor to any decisions made regarding which PLD is most suitable for a school and/or teachers' learning needs.

A further consideration related to the funding and allocation of resources to coaching PLD is the question of effective coaching dosage. Wider coaching literature indicates that short, focused feedback

interventions can have positive effects on discrete classroom practices (Hemmeter et al., 2011; Hendrickson, Gardner, Kaiser, & Riley, 1993; Noell et al., 2005). However, increased dosage rates are required as the pedagogical content of PLD becomes more complex and comprehensive. For example, Hemmeter et al. (2016) indicate that a minimal of 12–14 coaching sessions are needed in order to identify changes in quality classroom interactions. The findings of the present study reflect similar outcomes identified in the wider practice-based coaching research. Teachers in this study were observed to make prompt and significant adjustments to their learning environment with workshops only or workshops and a few coaching sessions. However, extended periods of coaching were required as teachers focused on the more complex individual teaching behaviours required to effectively teach through play, such as the intentional teaching of the NZC within children's play. In addition to the type and complexity of teaching practices coached, wider coaching research indicates that learner characteristics (e.g., knowledge about or experience of pedagogical content, motivation to implement practices, and self-efficacy) will influence the amount of coaching needed by individual teachers (Snyder et al., 2015). The dosage rates of coaching, needed to support the complexity of teaching through play practices, have implications with respect to resource allocation, including the funding and timing of the PLD.

Finally, if schools are to move beyond engaging in workshop-style training as the popular form of PLD intervention in New Zealand, school leadership will require support to understand the components of effective PLD and coaching models. While mentoring and consultation PLD interventions are often used to provide more generalised feedback, coaching can be used to directly respond to observed classroom practices and provide differentiated support to identify and assist the implementation of evidence-based instructional practices (Blazar & Kraft, 2015; Knight, 2007; Wildman et al., 1992). The PBC model used in the current study ensures teachers experience effective coaching components, including needs assessment, focused observations, goal setting, reflection, and performance feedback, with all components identified within PLD research as contributing to the success of the coaching process. Given the broad and interchangeable use of the term 'coaching', with 'mentoring' and 'consulting', to describe the various PLD

provided for schools, school leaders will need to consider component parts of any adopted approach, and the evidence informing the style and format of PLD offered. Consideration of the skills the PLD provider has, and the ways in which PLD will inform and sustain new or desired teaching practices, will also be important.

Policy. Policy makers are encouraged to proactively respond to the growing interest primary school teachers have regarding teaching through play in the classroom setting (Davis, 2018), and ensure teachers have access to PLD that addresses the knowledge to practice gap identified in this study. This response requires a combined focus on raising awareness of the evidence associated with effective PLD; ensuring centrally funded PLD providers are delivering evidence based PLD; and supporting schools to understand the need to financially invest in quality, effective PLD initiatives.

Policy initiatives are needed to raise school leadership awareness of the teacher knowledge to practice gap, identified in the present study. Current government funded PLD policy provides support for locally focused PLD initiatives (Ministry of Education, 2019b) with principals and school leaders required to assess their PLD needs by engaging in the spiral of inquiry model (Timperley, Kaser, & Halbert, 2014). This model draws on teacher observation of student needs and their ability to undertake informed actions to address these needs, making clear to teachers the important connection between new teacher knowledge and the way in which this process may positively impact student learning outcomes. While this raises professional awareness in understanding the connection between teacher knowledge and student outcome, the important connection between teacher knowledge and teacher practice is implied, rather than explicitly supported. The findings of this study indicate the need for increased awareness, from teachers, school leaders and principals, of the gap between what teachers know and what they do in practice. Policy makers have a role to play in amplifying this awareness by ensuring schools identify how PLD will support teachers to practically implement new knowledge, gained as part of the funding application process.

Policies that support schools to engage in evidence-informed PLD are needed in order to move school leaders and teachers away from the habitual use of workshop-only, or one-off style training for their

teachers. While nationally focused PLD initiatives commonly draw from evidence associated with positive outcomes for students, locally focused PLD funding does not have the same requirements. Instead, PLD policies focus on the accreditation of facilitators, rather than funding effective locally focused PLD initiatives. The facilitator accreditation process does not include a review of the type of PLD offered by facilitators, instead focusing on their experience and recommendation by sector leaders as to their suitability to facilitate PLD. While this process goes some way in ensuring schools have support to access providers with suitable experience and qualification, it falls short of ensuring that the PLD offered by any given facilitator is evidence-based and effective in addressing the learning needs of the teachers and impacting positively on student outcomes.

Policy initiatives that raise school leaders' awareness that effective PLD requires a longer time and financial commitment to achieve sustained changes in teacher practice, are required to address the popularity of less effective PLD models, such as workshop-only or one-off style training formats. Workshop-style training or one-off lecture series formats are popular because school leadership teams seek the best 'bang for buck' when operating within a restricted and finite resource pool. When making budget decisions related to PLD, school leadership teams require support to understand the impact of effective investments in long-term, sustainable teacher practice outcomes. Schools receive little guidance as to the number of hours needed to support PLD that focuses on complex teaching practices, such as teaching through play. As a result, schools apply for funding that often falls short of what is needed to engage in long-term PLD models, such as practice-based coaching. By promoting PLD models inclusive of practice-based coaching or other coaching models with evidence of efficacy, the government will raise awareness of effective PLD and ensure appropriate resourcing is available to support engagement with these models.

Implications for Further Research

The findings of this study have implications for future research related to play pedagogies and the PLD associated with effectively supporting teachers to implement teaching through play practices with fidelity in the primary classroom setting. The P-BLOT was designed in response to the lack of a

measurement tool identifying effective evidence-based practices associated with teaching through play in the New Zealand primary school setting. Further development of the P-BLOT measurement tool would benefit from the conduct of measurement studies designed to examine the key aspects of measurement, including item structure and guidance, observation protocols, scoring, training thresholds, reliability and validity indicators, to further enhance the use of the P-BLOT in research studies. It would also be worthwhile to further explore practice improvement and PLD applications of the P-BLOT, similar to the way the tool was used in the coaching process in the present study, to support the identification and implementation of effective play practices.

Future research focused on the intersection between effective teaching through play practices and the proximal outcomes on student learning is needed in analysing the effectiveness of PLD interventions, such as PBC models. While reporting some distal outcomes observed by teachers, this study did not set out to measure the impact of changes in teacher practice on student outcomes. Wider PLD literature indicates the considerable effort directed at understanding the connection between acts of teaching and what students learn (Black & William, 1998; Timperley et al., 2007). Further research investigating the impact of teaching through play practices on student learning would be a useful addition to the wider research around the use of play as a pedagogical tool in the classroom setting.

Finally, this study has emphasised the need for research into the way in which teachers can be supported to implement teaching practices that reflect their beliefs and knowledge about the value of play pedagogy in their daily classroom lives. It has demonstrated the gap between what teachers know and believe, and what they do in their everyday practice. Furthermore, it has highlighted that attendance at workshops and one-off lecture style PLD events alone does not provide enough support for teachers to implement, with fidelity, the complex teaching practices associated with effective play pedagogy. By utilising a practice focused PLD model, such as PBC, teachers can be supported to address the knowledge to practice gap and be observed making and sustaining positive changes to their teaching practices as a result. PBC is an unfamiliar PLD model in New Zealand and not widely available to teachers. There needs to be

more research about the use of this coaching model within the New Zealand context, and its impact on the implementation fidelity of teaching practices in New Zealand classrooms. Further research will serve to address the traditional engagement in workshop-only style training that continues with some popularity in the New Zealand primary sector and raise awareness of the need for ongoing PLD support when implementing complex teaching practices.

Concluding Statement

Play pedagogy is an area of growing popularity in the primary school setting. This study aimed to understand what teachers know and believe about teaching through play and how they could be supported to apply this to their teaching practices within the primary classroom context. The study found that while teachers may recognise the value of learning through play and believe that play pedagogies should continue from early childhood education into the primary school classroom, what this looks like, in practice, is a challenge for teachers to implement. Teachers lacked confidence and knowledge in effectively teaching through play, and in understanding how play can be used as a tool to intentionally deliver the New Zealand Curriculum. Furthermore, teachers had little access to resources that clearly identify evidence-based practices associated with effective teaching through play. Teachers seeking positive student outcomes from a learning through play approach, will require PLD focused on moving beyond what they know and believe to what they do effectively as practitioners in a play environment. This study demonstrated achieving this shift cannot be done by attending workshop-style PLD alone. The complexity of teaching practices associated with effective play pedagogies requires a commitment by teachers to engage in PLD that addresses their individual practice, and supports them to critically reflect on, and make changes to, what they do in their classroom context.

Practice-based coaching has been demonstrated as an effective model in supporting teachers to move beyond knowledge and belief and address the way in which they implement evidence-based practices in their classroom setting (Snyder et al., 2015). However, effective coaching models, such as PBC, are not well utilised by New Zealand schools. Professional development providers and fundholders, including the

Ministry of Education, have an important role to play in challenging the discourses which influence school engagement in effective PLD initiatives. This thesis challenges teachers' habitual attendance at workshop-only style training, with the hopes of changing their pedagogical practices or improving student learning in meaningful ways. High-quality, well-facilitated workshops may have a place for raising teachers awareness of practices or implementation of simple and discrete practices, but on-going, effective PLD that includes a coaching component, is needed to support changes in complex and multi-faceted teaching and learning approaches such as effective play pedagogies.

If the benefits of learning through play are to be achieved in the primary classroom context, teachers require support to understand the complexity of practices involved and how they differ from more traditional modes of teaching and learning. Without adequate, evidence based PLD available to teachers that addresses this complexity, there is a risk that ineffective teaching practices will prevail and, as a result, the benefits of learning through play will not be achieved. Continuing to conduct research that examines effective practices associated with teaching through play and the impact of these practices on student outcomes will provide evidence about the value of learning through play in the primary setting. Finally, raising educators' awareness of PLD models that are more effective in addressing the teacher knowledge to teacher practice gap, through ongoing research and policy initiatives will ensure teachers are supported to address the way in which they implement effective teaching practices in their classrooms. Further research on the benefits of PBC will provide evidence about moving teachers beyond what they know and believe, to how to address what teachers do to teach effectively through play in their classroom settings.

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Appendix A.

Practice-based coaching key processes

What is Practice-Based Coaching (PBC)?

PBC supports teachers to implement effective teaching practices that, in turn, enable positive outcomes for children. It is a cyclical process with three main components including:

1. Planning goals and action steps
2. Engaging in focused observation
3. Reflecting on and sharing feedback about teaching practices

PBC is a collaborative process between the teacher and the coach. Working together, the components of the PBC process are designed to assist the teacher and coach to explore and support the use of effective teaching practices in the teacher's classroom.

Component 1: Planning Goals and Action Steps

During this step in the cyclical process, teachers work with coaches to establish their initial goals and a plan of action to work towards these goals within their practice. This begins with the completion of a needs analysis on a set of focused practices (Snyder & Wolfe, 2008). Once the needs analysis is completed, a set of goals are established, informing an action plan that is collaboratively created between teacher and coach. These goals are clearly defined, measurable and actionable within a defined time frame. This ensures not only accountability for the achievement of these goals, but the opportunity to celebrate progress as well. The action plan is structured to enable not only a review of the initial goals, but subsequent new goals to be set as these initial goals are achieved. The cyclic process of Practice-Based Coaching enables the process of ongoing goal setting and action planning to occur as teaching practice continues to be refined and enhanced.

Component 2: Focused Observations

Once the action plan is developed, and goals are established the second component of Practice-Based Coaching occurs. 'Observation' refers to the way in which information about what and how the teacher engages in teaching practices in their classroom is gathered and recorded. These observations are focused, as the coach collects observational data specifically in relation to the goals and action plan steps

established in Component 1 of the Practice-Based Coaching model. During the observation the coach, with the teacher's permission, may provide in-situ supports to help the teacher to refine his or her use of the teaching practices. Coaching supports might include the coach modelling a teaching strategy, verbally prompting a teacher, or providing suggestions to try.

Component 3: Reflecting on and Sharing Feedback

This component of this Practice-Based Coaching cycle occurs during a debrief meeting following the observation. During the meeting teachers and coaches celebrate successful progress towards goals set, as well as challenges or further areas of improvement or refinement that may be needed. This involves a process of both reflection and feedback. Reflection on teaching practices enables coach and teacher to consider what was effective and what were the barriers to reaching the goals established in the action plan. Feedback provided is both supportive and constructive with the overall intention being to assist the achievement of identified goals and improve or refine teaching practice. Supportive feedback recognises and promotes successful teaching practices and their implementation. It links observational data gathered with the goals set within the action plan to demonstrate the progress occurring for the teacher. Constructive feedback recognises the opportunities available for the improvement or refinement of teaching practices. It is specific and informed by the observational data gathered or reflection that has occurred as a result of the review of data.

Continuing the Coaching Cycle

From this debriefing meeting, outlined in Component 3, reflection and feedback enable the teacher and coach to review initial goals and modify current or establish new goals and action plans, as outlined in Component 1. Over the duration of the coaching sessions, this process is ongoing and cyclical, as existing goals and action plan are reviewed and updated.

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Appendix B.

Principals Information Sheet

School Principal Research Information Sheet

Teaching through Play in the New Zealand Primary Classroom: Comparing Professional Learning and Development Approaches to Support Teacher Knowledge and Practice

What is this research project about?

This research project is designed to examine the impact of a professional learning and development (PLD) intervention on teachers use of play-based learning in their classrooms. The research is being conducted by Sarah Aiono, a Doctor of Education student with the Institute of Education at Massey University.

Sarah Aiono, in collaboration with her supervisors Associate Professor Tracy Riley and Dr Tara McLaughlin, has designed a comprehensive PLD intervention known as Teaching through Play in the New Zealand Primary Classroom (TPNZPC): Research, Implementation & Assessment. This intervention has been designed to help teachers understand the evidence and theory behind play-based learning; planning, assessment and resourcing; and the practical application of teaching practices associated with effective play-based learning environments in the primary school classroom.

TPNZPC includes a series of workshops and support materials to assist teachers with their knowledge and use of play-based learning practices in their classroom. To better understand the efficacy of the TPNZPC and the potential benefits of follow-up supports, the research study will compare differences in teachers use of play based learning following one of two follow-up PLD support options at the conclusion of the workshop series: Group A teachers who receive onsite practice-based coaching with project staff; or Group B teachers who do not receive onsite practice-based coaching with project staff. Group B is sometimes referred to as a wait-list comparison and will be provided with the option to participate in practice-based coaching at the completion of the study.

This project is currently seeking schools that have at least 3 Year 0 – 3 classroom teachers interested in implementing play-based learning and participation in this research project. As a principal of a primary school, your permission is sought to contact teachers in your school for possible participation in this project.

The following information sheet provides more detail about the play-based learning, the aim of the project and what is involved, and potential benefit and risks to teachers and schools. The teacher information sheet is also included which outlines this same information as well as data collection and storage, teacher consent process and rights. Please contact Sarah Aiono if you have further questions.

What is Play-Based Learning?

Play-based learning is a term that encompasses a teaching and learning approach recognising the need for students to be active participants in their learning, leading their own inquiry and exploring and practicing new skills and ideas through play. For the purpose of this project, the term play-based learning refers to the learning that occurs as a result of the teacher providing and supporting opportunities for students to engage in and lead play in the classroom environment. In this approach, the teacher ensures a balance of teacher-directed learning, such as the intentional teaching of literacy and numeracy that builds on student interests and strengths, alongside student-directed learning and inquiry with teacher supports, using play as the medium with which to do this.

Research has shown that play is fundamental to the physical, social, emotional and intellectual development of children (Armstrong, 2006; Gray 2013; Riley & Jones, 2010; Robinson & Aronica, 2015). Elkind (2007, p.4) proposes “play is not a luxury but rather a crucial dynamic of healthy physical, intellectual, and social-emotional development at all age levels”. Derived from constructivist and social-learning theories such as Piaget, Bruner, Bandura and Vygotsky, the provision of open-ended play and activities support discovery by students as they engage with the tasks (Martlew, Stephen, & Ellis, 2011). When play is self-chosen and self-directed, researchers assert that a strong sense of self-efficacy and resiliency can result through peer interaction and negotiation (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Wassermann, 2000). Conversations that occur with teachers, other adults, and peers during play allow children to explore diverse ideas and experience a variety of perspectives, deepening their understanding of concepts presenting themselves within the context of their play, as well as enriching their oral language skills.

The Aim of this Project:

The study has two main aims:

- (i) To explore teacher beliefs, knowledge, skills, capacities and practices that support play-based learning within the primary school environment, and how this pedagogy can be implemented to ensure successful outcomes for students.
- (ii) To identify effective professional learning and development approaches in addressing teacher competence and confidence of a play-based pedagogy and the implementation of this pedagogy within the primary school environment.

What will Teachers who Agree to Participate in the Project Do and How Much Time is Involved?

Teachers that consent to participate in this project will participate in one of two possible PLD conditions.

- | | |
|----------------|---|
| Group A | Teaching through Play in the New Zealand Primary Classroom (TPNZPC) workshop series and resources with onsite practice-based coaching with project staff, OR |
| Group B | Teaching through Play in the New Zealand Primary Classroom (TPNZPC) workshop series and resources and wait-list comparison (option to participate in the onsite practice-based coaching after the completion of the project). |

Assignment to condition will occur at the school level. Schools with participating teachers will be randomly assigned to conditions.

As participants in this research study, **teachers at schools in either Group A or Group B will be asked to do the following tasks through the course of project:**

- Complete a 20-minute online questionnaire regarding their current practice, knowledge and ideas about play-based learning, both before and at the conclusion of this project.
- Allow project staff to observe their teaching in their classrooms before the project, during, and at the conclusion of this project. These observations will be approximately 2.5 – 4 hours in length with a 10 – 15-minute session for questions with the teacher at the conclusion of the observation
- Participate in 15 – 18 hours of professional learning and development workshops with supporting materials, to be determined in relation to the availability of participants
- Complete a teacher-knowledge questionnaire at the conclusion of each Teaching through Play in the New Zealand Primary Classroom workshops and an evaluation of the workshop content
- Complete readings and homework associated with the content of the TPNZPC workshops. This homework will typically be focused on teacher practice and teacher behaviour within their classrooms
- Engage in a 30 – 40-minute interview with project staff at the conclusion of the project to discuss their teaching practice and knowledge. These interviews will be held during non-contact time, or afterschool

Teachers at the school assigned to **Group A will also be asked to do the following tasks through the course of project:**

- Participate in 8 sessions of Practice-Based Coaching over a 16-week period (1 coaching session a fortnight). These sessions will involve 60 minutes of live observation, followed by 30-45 minutes for a debrief meeting, held afterschool. Times and dates will be determined by teacher and coach
- As part of coaching, teacher and coach will identify teacher priorities for play-based learning, set goals and develop action plans to work on during coaching to support teacher success towards these goals
- Complete a coaching evaluation form at the conclusion of each coaching session with the project staff.

Please note, the school assigned to Group A will be randomly selected. The school who is not assigned to Group A will be designated Group B and will be wait-listed for practice-based coaching support at the conclusion of this project. Teachers at the school designated Group B will be unable to access further support by the project team until the conclusion of the study.

Project Findings:

A copy of the summary of the findings and also of any publications from this project will be available to participants and their school at the conclusion of the project. School and teacher privacy and confidentiality will be maintained through the use of pseudonyms. No identifying information will be shared in any dissemination activities.

Benefits and Risks of this Project:

We believe that primary school teachers and children will benefit from the professional learning and development package this project is offering. Specifically:

- Teachers will increase their knowledge of what play-based learning is and the use of play as a teaching and learning tool to effectively meet the goal and vision of the New Zealand School Curriculum.
- Teachers will confidently apply evidence-based teaching practices within a play-based learning classroom to ensure students' needs are supported in all learning areas of the New Zealand School Curriculum.
- Students will, as a result of effective teaching practices, demonstrate the cognitive, physical and socio-emotional learning outcomes associated in the literature with play-based learning environments.

There are no significant identifiable risks of harm to participants involved in this study. However, a smaller concern for teachers involved may be an increased workload and expectation placed upon them due to their participation in this study. As such:

- Teachers may choose to withdraw at any time if they feel overwhelmed by their involvement and the balance of this alongside their professional workload and personal responsibilities.
- Teacher participation in this project is voluntary and consent is required by individual teachers over and above consent gained from their school.

Thank you for your consideration of your school's involvement in this project. Your schools' potential participation in this project can help inform professional learning and development practices to support play-based learning in your region and across the New Zealand education sector.

Sarah Aiono, EdD Student
Massey University

This project has been evaluated by peer review and judged to be low risk. If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Dr Brian Finch, Director, Research Ethics.

Telephone: 06 356 9099 ext 86015

email: humanethics@massey.ac.nz

Also, feel free to contact the research project supervisors as detailed below:

Tracy Riley, Associate Professor
Telephone: 06 3569099 ext 84408
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Tara McLaughlin, Senior Lecturer in Early Years
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Appendix C.

Teacher Information Sheet

Teacher Participant Research Information Sheet

Teaching through Play in the New Zealand Primary Classroom: Comparing Professional Learning and Development Approaches to Support Teacher Knowledge and Practice

What is this research project about?

This research project is designed to examine the impact of a professional learning and development (PLD) intervention on teachers use of play-based learning in their classrooms. The research is being conducted by Sarah Aiono, a Doctor of Education student with the Institute of Education at Massey University.

Sarah Aiono, in collaboration with her supervisors Associate Professor Tracy Riley and Dr Tara McLaughlin, has designed a comprehensive PLD intervention known as Teaching through Play in the New Zealand Primary Classroom (TPNZPC): Research, Implementation & Assessment. This intervention has been designed to help teachers understand the evidence and theory behind play-based learning; planning, assessment and resourcing; and the practical application of teaching practices associated with effective play-based learning environments in the primary school classroom.

TPNZPC includes a series of workshops and support materials to assist teachers with their knowledge and use of play-based learning practices in their classroom. To better understand the efficacy of the TPNZPC and the potential benefits of follow-up supports, the research study will compare differences in teachers use of play based learning following one of two follow-up PLD support options at the conclusion of the workshop series: Group A teachers who receive onsite practice-based coaching with project staff; or Group B teachers who do not receive onsite practice-based coaching with project staff. Group B is sometimes referred to as a wait-list comparison and will be provided with the option to participate in practice-based coaching at the completion of the study.

Your principal has given permission to contact you about this research. I am currently seeking teachers of Year 1 – 3 students interested in implementing play-based learning and participating in this research project. As a junior schoolteacher, I am inviting you to participate in this project.

The following information sheet provides more detail about the play-based learning, the aim of the project and what is involved, and potential benefit and risks to teachers and schools, teacher participant rights.

What is Play-Based Learning?

Play-based learning is a term that encompasses a teaching and learning approach recognising the need for students to be active participants in their learning, leading their own inquiry and exploring and practicing new skills and ideas through play. For the purpose of this project, the term play-based learning refers to the learning that occurs as a result of the teacher providing and supporting opportunities for students to engage in and lead play in the classroom

environment. In this approach, the teacher ensures a balance of teacher-directed learning, such as the intentional teaching of literacy and numeracy that builds on student interests and strengths, alongside student-directed learning and inquiry with teacher supports, using play as the medium with which to do this.

Research has shown that play is fundamental to the physical, social, emotional and intellectual development of children (Armstrong, 2006; Gray 2013; Riley & Jones, 2010; Robinson & Aronica, 2015). Elkind (2007, p.4) proposes “play is not a luxury but rather a crucial dynamic of healthy physical, intellectual, and social-emotional development at all age levels”. Derived from constructivist and social-learning theories such as Piaget, Bruner, Bandura and Vygotsky, the provision of open-ended play and activities support discovery by students as they engage with the tasks (Martlew, Stephen, & Ellis, 2011). When play is self-chosen and self-directed, researchers assert that a strong sense of self-efficacy and resiliency can result through peer interaction and negotiation (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Wassermann, 2000). Conversations that occur with teachers, other adults, and peers during play allow children to explore diverse ideas and experience a variety of perspectives, deepening their understanding of concepts presenting themselves within the context of their play, as well as enriching their oral language skills.

The Aim of this Project:

The study has two main aims:

- (iii) To explore teacher beliefs, knowledge, skills, capacities and practices that support play-based learning within the primary school environment, and how this pedagogy can be implemented to ensure successful outcomes for students.
- (iv) To identify effective professional learning and development approaches in addressing teacher competence and confidence of a play-based pedagogy and the implementation of this pedagogy within the primary school environment.

What will Teachers Who Agree to Participate in the Project Do and How Much Time is Involved?

Teachers that consent to participate in this project will participate in one of two possible PLD conditions.

- Group A** Teaching through Play in the New Zealand Primary Classroom (TPNZPC) workshop series and resources with onsite practice-based coaching with project staff, **OR**
- Group B** Teaching through Play in the New Zealand Primary Classroom (TPNZPC) workshop series and resources and wait-list comparison (option to participate in the onsite practice-based coaching after the completion of the project).

Assignment to condition will occur at the school level. Schools with participating teachers will be randomly assigned to conditions.

As participants in this research study, **teachers at schools in either Group A or Group B will be asked to do the following tasks through the course of project:**

- Complete a 20-minute online questionnaire regarding their current practice, knowledge and ideas about play-based learning, both before and at the conclusion of this project

- Allow project staff to observe their teaching in their classrooms before the project, during, and at the conclusion of this project. These observations will be approximately 2.5 – 4 hours in length with a 10 – 15-minute session for questions with the teacher at the conclusion of the observation
- Participate in 15 – 18 hours of professional learning and development workshops with supporting materials, to be determined in relation to the availability of participants
- Complete a teacher-knowledge questionnaire at the conclusion of each Teaching through Play in the New Zealand Primary Classroom workshops and an evaluation of the workshop content
- Complete readings and homework associated with the content of the TPNZPC workshops. This homework will typically be focused on teacher practice and teacher behaviour within their classrooms
- Engage in a 30 – 40-minute interview with project staff at the conclusion of the project to discuss their teaching practice and knowledge. These interviews will be held during non-contact time, or afterschool

Teachers at the school assigned to **Group A will also be asked to do the following tasks through the course of project:**

- Participate in 8 sessions of Practice-Based Coaching over a 16-week period (1 coaching session a fortnight). These sessions will involve 60 minutes of live observation, followed by 30-45 minutes for a debrief meeting, held afterschool. Times and dates will be determined by teacher and coach
- As part of coaching, teacher and coach will identify teacher priorities for play-based learning, set goals and develop action plans to work on during coaching to support teacher success towards these goals
- Complete a coaching evaluation form at the conclusion of all coaching sessions

Please note, the school assigned to Group A will be randomly selected. The school who is not assigned to Group A will be designated Group B and will be wait-listed for practice-based coaching support at the conclusion of this project. Teachers at the school designated Group B will be unable to access further support by the project team until the conclusion of the study.

Data Collection & Storage:

Observational and interview data gathered during this project will be assigned a non-identifying project ID number such that only the researcher, second observer and supervisory team will be able to identify individual teachers. All information collected from participants, including the consent form, observational data, coaching evaluation forms, interview recordings and transcripts, will be kept in a secure location that is not accessible to anyone other than the project team.

Raw data, or any data gathered on individual teachers will not be available to anyone outside the project team, including other school staff and senior management. At no time will individual teacher data be provided to school managers for school appraisal processes. School management, along with teachers, will be provided with summary of project findings at the conclusion of the study. Summary information will be collated across all teachers. Individual privacy and confidentiality will be maintained through the use of pseudonyms in any dissemination activities. After a five-year period, all the data for this stage of the project will be shredded or deleted.

Individual Consent to Participate in this Project:

The focus of this project is to understand and support teacher knowledge, skills, capacities and practices in a play-based learning environment. Your school has been approached to participate in this project, however, the school is not able to consent to your participation on your behalf. This project requires individual, informed voluntary consent of each teacher involved.

You are under no obligation to accept this invitation to participate in this project. If you decide to participate, you have the right to:

- decline to answer any particular question
- ask for the recorder to be turned off at any time during the project interviews
- withdraw from the study at any time
- ask any questions about the study at any time during participation
- provide information on the understanding that your name or any other information that identifies you will not be used
- be given access to a summary of the project findings when it is concluded

Project Findings:

A copy of the summary of the findings and also of any publications from this project will be available to participants and their school at the conclusion of the project. School and teacher privacy and confidentiality will be maintained through the use of pseudonyms. No identifying information will be shared in any dissemination activities.

Benefits and Risks of this Project:

We believe that primary school teachers and children will benefit from the professional learning and development package this project is offering. Specifically:

- Teachers will increase their knowledge of what play-based learning is and the use of play as a teaching and learning tool to effectively meet the goal and vision of the New Zealand School Curriculum.
- Teachers will confidently apply evidence-based teaching practices within a play-based learning classroom to ensure students' needs are supported in all learning areas of the New Zealand School Curriculum.
- Students will, as a result of effective teaching practices, demonstrate the cognitive, physical and socio-emotional learning outcomes associated in the literature with play-based learning environments.

There are no significant identifiable risks of harm to participants involved in this study. However, a smaller concern for teachers involved may be an increased workload and expectation placed upon them due to their participation in this study. As such:

- Teachers may choose to withdraw at any time if they feel overwhelmed by their involvement and the balance of this alongside their professional workload and personal responsibilities.
- Teacher participation in this project is voluntary and consent is required by individual teachers over and above consent gained from their school.

Thank you for your consideration. Please let me know if you have further questions about this project.

Sarah Aiono, EdD Student
Massey University

This project has been evaluated by peer review and judged to be low risk. If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Dr Brian Finch, Director, Research Ethics.

Telephone: 06 356 9099 ext 86015 email: humanethics@massey.ac.nz

Also, feel free to contact the research project supervisors as detailed below:

Tracy Riley, Associate Professor at Massey University.

Telephone: 06 3569099 ext 84408 email: t.riley@massey.ac.nz

Tara McLaughlin, Senior Lecturer in Early Years, Massey University

Telephone: 06 356 9099 ext 84312 email: t.mclaughlin@massey.ac.nz

Appendix D.
Teacher Consent Form



Institute of Education – Te Kura o Mātauranga

**Teaching through Play in the New Zealand Primary Classroom:
Comparing Professional Learning and Development Approaches to
Support Teacher Knowledge and Practice**

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree / do not agree to have my teaching practice observed by the project team.

I agree / do not agree to the interviews being sound recorded.

I agree / do not agree to participate in TPNZPC Professional Learning and Development workshops.

I wish / do not wish to have my sound recordings returned to me.

I wish / do not wish to have a copy of the transcript of my interview.

I understand that any information I provide will be kept confidential to the researcher, supervisors and the transcriber.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature:

Date:

Full Name - printed

Appendix E.

Summary of Workshop Content and Learning Outcomes

Workshop	Topic	Related Knowledge (What will Teachers need to know)	Related Skills (What will Teachers be able to do)
One (4 hours)	<u>Defining a Play-Based Classroom: What Teachers Need to Know</u> <ul style="list-style-type: none"> What is Play Why Play? Constructivism, Social Learning & Cognitive Developmental Theory Avoiding a subject based approach to knowledge: Introducing Schema Functional Types of Play Resourcing and Responding to Student Schema: Setting up Invitations for Play 	<ul style="list-style-type: none"> The definition of play-based teaching and learning. The difference between teacher-led and child-directed learning The benefits of play on children's cognitive, socio-emotional and physical development. Develop an overview of constructivism, social-learning theory and cognitive developmental stages Identify the difference between a subject-based approach to learning and a schema approach to understand what motivates children to learn Understand how to structure their learning environment in response to these schemas Examine the Theory of Loose Parts (open ended materials) and ways in which to resource children's play in response to observed schema inside and outside the classroom The importance in getting students playing outside Understand what play invitations are in resourcing and establishing play opportunities inside and outside the classroom 	<ul style="list-style-type: none"> Self-assess their current practice against a continuum of exemplars related to play-based teaching pedagogy. Recognise the cognitive developmental stages of the students in their class Identify functional types of play occurring in their current learning environment Identify schema their students are currently demonstrating in their play Set out a play invitation using loose parts for the classroom in response to identified schema Use a variety of loose parts as resources inside and outside the room Intentionally schedule or manage opportunities for students to play outside the classroom Arrange the learning environment to enable students to access loose parts to support their play Identify challenges and barriers that may arise while implementing play pedagogy in school

Two (4 hours)	<p><u>The Role of the Teacher: Timetabling and Teaching in a Play Based Classroom</u></p> <ul style="list-style-type: none"> • Play and the New Zealand School Curriculum (NZSC) • Observing the Curriculum in Play • Teaching through Play: Intentional Teaching and the Zone of Proximal Development • Structuring the School Day: Balancing Adult-Guided Instruction and Child-Guided Play Based Learning: Timetabling • Developmental stages of Play: Noticing socio-dramatic play 	<ul style="list-style-type: none"> • Understand how the NZSC supports play-based pedagogy in schools by reviewing the intention of the NZSC, including the vision, values and principles. • Understand the pedagogy of Intentional Teaching, the balance required between adult-guided and child-guided experiences and the teacher's role in teaching through play • Examine the role the Zone of Proximal Development plays in supporting students in their play • Understand how to timetable learning to meet curriculum and school requirements within a play-based environment • Identify socio-dramatic play occurring and how to respond appropriately to this play 	<ul style="list-style-type: none"> • Identify how students display the vision, values and principles of the NZSC in their play • Identify which areas of the curriculum require adult-guided intentional teaching and which areas are suited to child-guided experiences, with scaffolded intentional teaching from adults • Begin to identify when a child is working in the Zone of Proximal Development and consider ways to support learning at this point • Critically examine their own classroom timetables and adjust these to incorporate more opportunities for play in the school day. • Identify features of socio-dramatic play occurring in their student's play
Three (4 hours)	<p><u>The Role of the Teacher: Teaching in a Play Based Classroom</u></p> <ul style="list-style-type: none"> • Teaching the Curriculum through Play: Promoting Student Agency • Teaching Social and Cognitive Domains of the NZSC Through Play 	<ul style="list-style-type: none"> • The intention of the NZSC, including the vision, values and principles. • How to observe the NZSC within children's play in the learning environment • How to intentionally teach the learning areas and key competencies of the NZSC • How to use play invitations to promote the social and cognitive domains of the NZSC • How to use positive descriptive feedback in response to student's interactions in the learning environment • What research says about how children develop socio-emotional competencies and the links to play based learning • The importance of teaching specific problem-solving skills within a play-based learning environment. 	<ul style="list-style-type: none"> • Identify how students display the vision, values principles, key competencies and learning areas of the NZSC in their play • Use positive descriptive feedback to intentionally teach the learning areas and key competencies of the NZSC. • Use a variety of teaching resources to directly teach target social skills to students e.g. books, puppets, models • Run teacher-directed practices with children with a focus on identified social skill development and/or problem-solving strategies • Use positive descriptive feedback during student-directed play activities to reinforce target social & emotional skill development • Use play invitations with resources to encourage the development of students' understanding in both the cognitive and social domains of the NZSC

		<ul style="list-style-type: none"> • How to respond to identified socio-emotional needs of learners using intentional teaching methods and develop these within a play-based teaching and learning environment 	
Workshop (4 hours)	<p><u>Understanding Play Based Learning: Planning for and Assessing Progress of Learning through Play</u></p> <ul style="list-style-type: none"> • Planning for the New Zealand Curriculum • Reporting and Assessing Learning Through Play: Narrative Assessments • Practicing Narrative Assessment • Problem Solving Barriers and Challenges 	<ul style="list-style-type: none"> • Understand how planning differs from traditional approaches when responding to child-directed learning through play • What Narrative Assessment is, how it differs from reporting on students and the variety of platforms it can occur through • How Narrative Assessments are used as a demonstration of progression and ways in which they can be connected with school-wide reporting systems • The importance of parent and school community education in supporting the establishment of school play-based learning environments • Barriers and challenges in establishing and maintaining a play-based teaching and learning environment 	<ul style="list-style-type: none"> • Create one or more plans reflecting links to the NZSC and student schema • Construct a basic class narrative assessment to document the key competencies observed in students' play. • Provide information on the classroom programme to parents and the school community through a variety of means, including newsletters, blogs, class displays and learning stories. • Construct a variety of narrative assessments, including individual, group and whole class, linking to a variety of NZSC areas. Respond to and problem-solve ways to overcome identified barriers and challenges in their practice

Appendix F.

Coach Strengths and Needs Analysis Form

Coach Strengths & Needs Assessment Form

Teacher ID: _____ Coach ID: _____ Date: _____

Directions: Use the data from your observations, to identify strengths, needs and potential focal areas for coaching. Use this form to help you lead a discussion during the coaching session.

Identify 3 teaching through play practices the teacher is implementing well:
Identify 3 practice implementation needs identified on the <i>Play-Based Learning Observation Tool</i> (including counter-productive indicators):
Identify 2-3 goals you think would be appropriate and relevant for this teacher:

This form is based on the *Coach Planning Form* for use with student research at Massey University with permission from Snyder, P. and the Embedded Instruction for Early Learning Project (2017). *Practice-based coaching protocols*. Unpublished professional development series. Anita Zucker Center for Excellence in Early Childhood Studies, University of Florida, Gainesville, FL.

Appendix G.

Continuum of Teacher Practice: Teaching through Play

Continuum of Teacher Practice: Teaching through Play

	1	2	3	4	5	6	7
Classroom Routines	Whole Class	Task Board	Must Do/Can Do	Flexible Timetable	Flexible Timetable	Meal Breaks & Student Transitions	Meal Breaks
Role of the Teacher	Adult-directed curriculum learning tasks Teacher provides whole-class non-differentiated learning activities.	Adult-directed literacy and numeracy tasks organised in rotational ability-grouped activities Teacher provides whole-class, non-differentiated teaching for all other curriculum areas.	Adult-directed literacy and numeracy tasks organised in 'must do' ability-grouped activities. Teacher provides menu of 'can do' choices when must do tasks are completed. These choices include the option of free-play inside and sometimes outside the classroom. A mixture of whole-class non-differentiated and differentiated teaching for other curriculum areas.	Adult-directed literacy and numeracy tasks organised in ability-grouped activities. Direct teaching of literacy and numeracy occurs flexibly across the school day. Teacher resources students for play when not engaged in adult-directed literacy and numeracy activities. Teacher intentionally teaches students during play, consistently combining naturalistic and direct teaching methods. Teacher integrates curriculum learning areas, key competencies and socio-emotional skill development with observed student schema, interests and/or dispositions, regularly providing play invitations to motivate student inquiry through play. Some whole-class teaching occurs with a general focus on problem-solving and social skill development.	Adult-directed literacy and numeracy tasks organised in ability-grouped activities. Direct teaching of literacy and numeracy occurs somewhat flexibly across the school day. Teacher resources students for play when not engaged in adult-directed literacy and numeracy activities. Teacher intentionally teaches students during play, primarily focusing on the development of curriculum key competencies and socio-emotional skill development through naturalistic teaching methods. Teacher responds to observed student schema, interests and/or dispositions by occasionally providing play invitations to motivate student inquiry through play. Some whole-class teaching occurs with a general focus on problem-solving and social skill development.	Teacher intentionally teaches students during play, primarily focusing on the development of learning dispositions and student thinking through naturalistic teaching methods. Teacher responds to observed student schema, interests and/or dispositions by occasionally providing play invitations to motivate student inquiry through play. Some whole-class generalised teaching occurs in the form of shared stories or shared student 'news' and discussions.	Learning is directed by students through independent or peer play inside and out all day, every day. Timetable identifies meal breaks within student-led routines and activities. Teachers provide generalised feedback to students and/or respond to disruptive or inappropriate behaviour.
Resourcing	Single-use resources (eg worksheets, exercise books) → Commercial toys, games, puzzles (eg toy cars, doh cutters, board games, kitchen sets) → Sand & Water resources; PE Equipment → Multi-purpose resources (Loose Parts) (eg pipes, hoses, feathers, blocks, lego, material and natural resources) →						

Appendix H.

Practice Implementation Checklists 1 – 4

Effective Teaching in a Primary Play-Based Classroom:
Practice Implementation Checklists (PIC)

Checklist 1: Setting Up a Play-Based Learning Environment

The Learning Space	
1. Organise a variety of learning spaces for students to play, both inside and outside the classroom.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
2. Arrange the learning environment to enable students to easily access loose parts for their play.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
Resourcing & Managing the Learning Environment	
3. Identify and select loose parts that will support the Theory of Loose Parts.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
4. Establish systems in the classroom that enable students to take responsibility for managing loose parts and reinforce the use of these systems when required.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
5. Provide loose parts and resources, both inside and outside the classroom in response to schema identified in students' play.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
6. Communicate clear expectations to students regarding the appropriate use of classroom resources.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
7. Provide rule reminders and logical consequences when needed.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
8. Use strategies to assist students to manage the noise, mess and transitions between activities effectively.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established

Reference: Aiono, S., & McLaughlin, T. (2018). Practice Implementation Checklists (PIC). In S. Aiono & T. McLaughlin, *Play-based Learning Observation Tool Research Version 1.0 (P-BLOT 1.0): Manual and Supplemental Resources*. Unpublished instrument. Palmerston North, New Zealand: Massey University. Available at <https://levrl.nz/play-based-learning-pic/>

Effective Teaching in a Primary Play-Based Classroom:
Practice Implementation Checklists (PIC)

**Checklist 2: Timetabling and Teaching in a Play-Based Learning
Environment**

Understanding the New Zealand Curriculum	
1. Identify the vision, values and principles of the New Zealand Curriculum in my students' play.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
2. Identify which areas of the curriculum require adult-guided or explicit acts of teaching.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
3. Identify which areas of the curriculum are suited to child-guided experiences with scaffolding from adults.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
Teaching through Play: Providing an Invitation	
4. Implement play invitations that support the development of specific learning areas and key competencies of the NZC.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
5. Implement play invitations that promote and support children's interests and preferences; their family's funds of knowledge and aspirations for their child, and community and cultural values.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
6. Intentionally teach knowledge and/or skills needed by students to advance or extend the learning in their play.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
Timetabling Play	
7. Provide a balance of adult-guided and child-guided learning experiences.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
8. Establish and implement a flexible timetable through the school day.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established

Reference: Aiono, S., & McLaughlin, T. (2018). Practice Implementation Checklists (PIC). In S. Aiono & T. McLaughlin, *Play-based Learning Observation Tool Research Version 1.0 (P-BLOT 1.0): Manual and Supplemental Resources*. Unpublished instrument. Palmerston North, New Zealand: Massey University. Available at <https://eyri.nz/play-based-learning-pic/>

Effective Teaching in a Primary Play-Based Classroom:

Practice Implementation Checklists (PIC)

Checklist 3: Teaching through Play

Noticing & Responding to the Curriculum in Students' Play	
1. Use positive descriptive feedback to teach the learning areas and key competencies of in students' play.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
2. Support students to extend and explore their own thinking and ideas in play using phrases such as "I wonder, maybe, have you thought about".	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
3. Identify which areas of the curriculum may require play invitations in order to promote further student exploration.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
Promoting Socio-Emotional Competencies and Problem-Solving	
4. Use a variety of teaching resources to directly teach target social and problem-solving skills .	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
5. Intentionally teach specific social skills and/or problem-solving strategies through whole-class modelling, role-play and student-practices.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
6. Use positive descriptive feedback when students are playing to reinforce target social and emotional skill development .	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
7. Regularly notice and respond to students' emotions using a variety of teaching strategies to support the development of students' emotional literacy and self-regulation .	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established

Reference: Aiono, S., & McLaughlin, T. (2018). Practice Implementation Checklists (PIC). In S. Aiono & T. McLaughlin, *Play-based Learning Observation Tool Research Version 1.0 (P-BLOT 1.0): Manual and Supplemental Resources*. Unpublished instrument. Palmerston North, New Zealand: Massey University. Available at <https://eyri.nz/play-based-learning-pic/>

**Effective Teaching in a Primary Play-Based Classroom:
Practice Implementation Checklists (PIC)**

Promoting Learning through Play	
8. Identify features of socio-dramatic play and use a variety of strategies to support students' creativity and imagination in this play.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
9.. Encourage students to share their knowledge and expertise with their peers.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
10. Support students when mistakes occur or fail, promoting perseverance, risk-taking and flexible thought in students' play.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
11. Spend time in conversation with students, scaffolding vocabulary as required.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established

Checklist 4: Assessing and Communicating Progress

Planning to Respond to Learning	
1. Collect and use observational data to inform my planning of play invitations that reflect clear links to the New Zealand Curriculum.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
2. Introduce play invitations in an engaging way, or by drawing students' attention to new resources with suggestions for their use.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
Assessing Progress of Learning	
3. Construct a variety of individual, group and whole-class narrative assessments with a focus on key competencies observed in the learning environment.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
4. Construct a variety of individual, group and whole-class narrative assessments with a focus on learning areas observed in the learning environment	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established

Reference: Aiono, S., & McLaughlin, T. (2018). Practice Implementation Checklists (PIC). In S. Aiono & T. McLaughlin, *Play-based Learning Observation Tool Research Version 1.0 (P-BLOT 1.0): Manual and Supplemental Resources*. Unpublished instrument. Palmerston North, New Zealand: Massey University. Available at <https://eyrl.nz/play-based-learning-pic/>

**Effective Teaching in a Primary Play-Based Classroom:
Practice Implementation Checklists (PIC)**

Communicating Progress of Learning	
5. Use narrative assessment to communicate my students' progress of learning through play to my parent community.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
6. Revisit student learning that has occurred through play by making learning stories visible and available to my students, enabling them to access these and review them at their own choosing.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established
7. Establish regular and consistent communication with my parent community through a variety of means, including newsletters, blogs, class displays, face to face meetings.	<input type="radio"/> Emerging <input type="radio"/> Partly in Place <input type="radio"/> Established

I can identify the following areas of strength when implementing teaching through play practices in my classroom:

The 2- 3 priority areas for my future practice include:

- ---
- ---
- ---

Reference: Aiono, S., & McLaughlin, T. (2018). Practice Implementation Checklists (PIC). In S. Aiono & T. McLaughlin, *Play-based Learning Observation Tool Research Version 1.0 (P-BLOT 1.0): Manual and Supplemental Resources*. Unpublished instrument. Palmerston North, New Zealand: Massey University. Available at <https://eyri.nz/play-based-learning-pic/>

Appendix I:

Example of Action Plan

Teaching through Play in the NZ Primary Classroom Teacher ID: _____ Coach ID: _____ Date: _____

Action Plan

Implementation Goal			
Criterion			
Steps to achieve this goal		Resources Needed	Timeline
1			
2			
3			
4			
Review			
Review Date 1: _____ <input type="checkbox"/> Goal achieved! <input type="checkbox"/> Making progress, but not there yet. <input type="checkbox"/> I need to change my goal.		Review Date 2: _____ <input type="checkbox"/> Goal achieved! <input type="checkbox"/> Making progress, but not there yet. <input type="checkbox"/> I need to change my goal.	
Review Date 3: _____ <input type="checkbox"/> Goal achieved! <input type="checkbox"/> Making progress, but not there yet. <input type="checkbox"/> I need to change my goal.			

This form is based on the *Action Plan form* for use with student research at Massey University with permission from Snyder, P. and the Embedded Instruction for Early Learning Project (2017). *Practice-based coaching protocols*. Unpublished professional development series. Anita Zucker Center for Excellence in Early Childhood Studies, University of Florida, Gainesville, FL.

Appendix J.

Example of Email Response Format

SESSIONS 2-10 COACHING EMAIL PROTOCOL

Note: The examples provided represent information a coach could write. When writing emails in Sessions 2-10, the coach should (a) think carefully about what is most important to emphasize from the session, (b) logically connect the information across indicators, and (c) use teacher friendly language.

Coaching Components	Example
Opening Comment	
I made a general, positive statement about what I observed.	Thank you once again for having me in your classroom today. It was such an exciting observation to undertake, as your students are a delight to watch as their play unfolds!
Supportive Feedback	
I provided supportive feedback about the teacher's implementation of teaching through play practices.	As we discussed today, you have a real strength in responding to your students' interests and schema in a way that supports them to extend their ideas and builds on the knowledge they bring with them to their play. A lovely example of this is your fairy play invitation and the way in which the children are supported to extend on their ideas with this socio-dramatic play. You have really responded to the students' schematic interests of construction and transformation, while encouraging some high-level imaginative play also.
Constructive Feedback	
I mentioned the goal of implementation fidelity and the constructive intent of the feedback.	My goal in coaching and in email is to always suggest ways to make teaching through play a natural and consistent part of your classroom programme.
I provided constructive feedback about the teacher's implementation of teaching through play by (a) objectively describing what I observed the teacher do and (b) providing 2-3 suggests for how the practice might be improved.	Our goal for coaching is to build on the way you are extending the children's ideas and knowledge by including positive descriptive feedback specifically focused on the learning areas of the New Zealand Curriculum. During the observation period today, I observed you trying to increase the rate of positive descriptive feedback you gave your students. You made four complete descriptive comments and attempted to complete a further three comments. In our debrief session, we discussed the links particularly between waiting and actively listening to the cues the students provide with regards to the intent of their play. By waiting and listening, we are then able to identify the curriculum in students' play, along with ways to extend their thinking at the suitable moment. As we discussed, the amount of wait time you provide in your interaction with your students' needs to be longer, and cues from students need to be observed to assist you to provide relevant feedback. This does require you be very conscious of the amount of time you spend waiting for children's responses, rather than eagerly filling the silence on their behalf!
Planned Actions	

I asked the teacher to review a section of the workshop material OR provided further resource material that is aligned with the constructive feedback provided in item 4 OR action steps on the <i>Action Plan</i> .	<p>I mentioned to you some recent research in this area, and this link provides a summary of the main findings.</p> <p>https://improvingteaching.co.uk/2013/08/17/increasing-wait-time/</p>
Scheduling	
I reminded the teacher of next observation/meeting.	We decided that I would observe again in a fortnight's time on Monday [DATE] from 9:30-10:30. Does that still work for you? We can hold our debrief meeting in the afternoon block when you are released at 1pm or after school (2.45pm). Just let me know what you prefer.
I asked or directed the teacher to reply via email.	I hope that sounds manageable for you. Let me know that you received this message and that it is all understandable. Please let me know if you have any questions regarding what we've discussed today.
Closing Statement	
I closed with a general positive and/or encouraging statement.	You are working so hard to support your student's learning experiences in their play. I look forward to returning in a fortnight to see more exciting play happening in your room!

Appendix K.
P-BLOT Observation Scoring Sheet

Observation Scoring Form: Play-Based Learning Observation Tool (P-BLOT)

Play-Based Learning Observation Tool (P-BLOT)
Observation Scoring Form

Date of Observation: _____ Teacher Code: _____

Observer Name: _____ No of Adults Present: _____

Observation Start Time: _____ Observation Finish Time: _____

Morning Tea Break: _____ Lunchtime Break: _____

Did the observation need to be suspended? _____ Yes/No

If Yes, time suspended: _____ Time resumed: _____

Reason for suspension: _____

Observer Notes:

39

The Play-Based Learning Observation Tool consists of the Guidelines for Administration and Scoring Instructions Manual and a separate Observation Scoring Form (this form). The Guidelines for Administration and Scoring Instructions Manual offers comprehensive instructions that accompany the Observation Scoring Form, and both materials should always be used in conjunction with each other.

Play-Based Observation Tool: Observation Scoring Sheet - RESEARCH EDITION –
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Observation Scoring Form: Play-Based Learning Observation Tool (P-BLOT)

Part A: The Learning Environment

Indicators		Evidence									
Learning Space		Little		Developing				Strong			
A1.	A variety of learning spaces, where students can choose to work/play, are available both inside and outside the classroom.	1	2	3	4	5					
A2.	The learning space is well-organised with students able to access and put away the resources available to them.	1	2	3	4	5					
Resourcing											
A3.	A variety of small loose parts are available to students to use in their play at their own choosing.	1	2	3	4	5					
A4.	A selection of large loose parts are available to students to use in their outdoor play.	1	2	3	4	5					
Management of Learning Environment											
A5.	Management systems are used to ensure students can leave and return to play between teacher-directed and student-directed learning activities with success.	1	2	3	4	5					
Promoting Learning to School Community											
A6.	Learning documentation is made visible and public for students to read/access.	1	2	3	4	5					
A7.	Parent information and communication are visually displayed in the learning space, via classroom newsletter and/or blogs.	1	2	3	4	5					
Sub-Totals:		O	R	O	R	O	R	O	R	O	R

PART A TOTAL: _____ / 35

Observer Notes:

40

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Observation Scoring Form: Play-Based Learning Observation Tool (P-BLOT)

Part B: Teacher Behaviour

Indicators	Evidence									
	Little		Developing				Strong			
Beginning Play – Providing an Invitation										
B1. Teacher provides an invitation to play with specific resources by introducing these in an engaging way or drawing students' attention to new resources with suggestions for their use.	1		2		3		4		5	
B2. Teachers encourage imagination and creative thought by inviting students to pretend and engage in socio-dramatic play.	1		2		3		4		5	
B3. Teachers use shared experiences or scenarios, books and/or stories to promote problem-solving in the learning environment.	1		2		3		4		5	
	O	R	O	R	O	R	O	R	O	R
During Play – Teaching through Play: All Learning Domains										
B4. Teachers use exploration-promoting language including 'I wonder' and 'maybe' and 'have you thought about' when engaging with students in play.	1		2		3		4		5	
B5. Teachers encourage students to share their knowledge and expertise with their peers.	1		2		3		4		5	
B6. Teachers intentionally teach the key competencies and/or learning areas of the NZSC when engaging with students in play.	1		2		3		4		5	
B7. Teachers support specific skill and knowledge development in the context of play by intentionally teaching knowledge and/or skills needed by the student to advance or extend learning in their play.	1		2		3		4		5	
B8. Teachers promote flexible thought and risk-taking by students engaged play.	1		2		3		4		5	
B9. Teachers support students when mistakes occur or ideas fail, assisting students to value their efforts and persevere; promoting a culture of resilience within the learning environment.	1		2		3		4		5	
Sub-Totals :										

PART B 1-9 SUB TOTAL: _____ / 45

41

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Part B: Teacher Behaviour

Indicators		Evidence									
During Play – Teaching through Play: Cognitive Domains		Little		Developing				Strong			
B10.	Teachers provide focused teacher-directed literacy and numeracy small group instruction.	1	2	3	4	5					
B11.	Teachers engage in reciprocal conversation with students, scaffolding new vocabulary when appropriate.	1	2	3	4	5					
During Play – Teaching through Play: Socio-Emotional Learning Domains											
B12.	Teachers intentionally teach social skills as a whole-class, small group and with individual students.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
B13.	Teachers recognise and intentionally teach students emotions and emotion language during play; supporting students to self-regulate and manage their emotions as needed.	1	2	3	4	5					
Management of Behaviour											
B14.	Teachers provide students with rule reminders, when required, including the use of whole-class redirection if the learning environment becomes unsettled during play.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
B15.	Teachers provide logical consequences for the students' mismanagement of play resources and/or for students not following classroom rules.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
Sub-Totals:											

PART B 1 – 9 SUB TOTAL: ____/45

PART B 10 – 15 SUB-TOTAL: ____/30

PART B TOTAL: ____/75

42

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Part C: Overall Judgment Areas: Teacher Practice

	Indicators	Evidence									
		Little		Developing						Strong	
	Management of Learning Environment										
C1.	Noise level of the classroom is appropriate to the task engaged in by the students.	1	2	3	4	5					
C2.	Whole-class transitions (including 'clean up' time) is minimised where practical.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
	Resource Management										
C3.	Teachers provide specific resources in response to current schemas and interests observed in the students' play.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
C4.	There are clear expectations communicated to students regarding the appropriate use of classroom resources.	1	2	3	4	5					
	Activities, Timetables & Routines										
C5.	There is a balance of teacher-directed and child-directed learning activities.	1	2	3	4	5					
	Planning and Promoting Learning										
C6.	Teachers plan for the development of the learning areas of the NZSC through the use of play invitations.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
	Assessment										
C7.	Teachers observe and document the development of the learning areas of the New Zealand School Curriculum by the students.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
C8.	Teachers collect and analyse data on student literacy and numeracy progress using assessment tools identified in their school assessment policy.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
C9.	Teachers observe and document the development of the values and key competencies of the New Zealand School Curriculum by the students.	1	2	3	4	5					
		O	R	O	R	O	R	O	R	O	R
Sub-Totals:											

PART C TOTAL: _____ /45

Observer Notes:

43

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Part D: Counter Productive Practice for Play-Based Learning

Indicators		Occurrence	
Management of Learning Environment			
D1.	The teacher has less than 30 minutes timetabled for students to engage in learning through play in the classroom setting.	Yes	No
D2.	The teacher uses a task board during literacy and numeracy times.	Yes	No
Resource Management			
D3.	Play resources are closed, and/or students are restricted in the way these resources can be used for multi-purpose play.	Yes	No
D4.	Resources are defined by curriculum area and only accessible during specified curriculum times.	Yes	No
During Play: Teaching through Play			
D5.	There is significantly more teacher talk at students in the learning environment than student-led discussion or the teacher talking with students.	Yes	No
D6.	The teacher requires students to complete compulsory low-level, non-differentiated curriculum activities at the conclusion of teacher-directed literacy and numeracy group work to an extent in which their opportunities for play become limited or restricted.	Yes	No
D7.	The teacher engages with students in ways that prevent, end or delay the play and directs or controls the ways in which students engage in their play.	Yes	No
D8.	The teacher engages minimally with students during their play, if at all.	Yes	No

YES TOTALS: ____/8

Observer Notes:

44

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Part E: Teacher Interview Questions *(to be asked if indicators not observed during teacher observation session) Responses to be recorded as Reported (R)*

Part A: The Learning Environment:

A7: Please describe how you inform your parent community about the learning through play that occurs in your classroom.

Please describe any visual communication platforms, such as posters and displays, or any online platforms to share information about the learning through play occurring in your classroom?

Part B: Teacher Behaviour:

B3: How do you use shared experiences or scenarios, books and or stories to promote problem-solving in your learning environment?

B12: Please describe how you intentionally teach social skills as a whole-class, small group and with individual students.

45
The Play-Based Learning Observation Tool consists of the Guidelines for Administration and Scoring Instructions Manual and a separate Observation Scoring Form (this form). The Guidelines for Administration and Scoring Instructions Manual offers comprehensive instructions that accompany the Observation Scoring Form, and both materials should always be used in conjunction with each other.

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- B14: Please describe how you provide rule reminders when required to students if they become unsettled during their time learning through play.

- B15: How do you provide logical consequences for the students' mismanagement of play resources and/or for students not following classroom rules.

Part C: Overall Judgement: Teacher Practice:

- C2: Please explain how often your class is engaged in whole-class transitions, such as clean-up/pack up times?

- C3: What student data assists you to select and provide the resources for your students to play with?

46
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C6: Please describe how you plan for the development of specific values, key competencies and/or learning areas of the NZSC through the use of play invitations.

C7: Please describe how you observe and document the development of the learning areas of the NZSC by the students.

C8: Please describe how you collect and analyse data on student literacy and numeracy progress using the assessment tools identified in your school assessment policy.

47

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C9: Please describe how you observe and document the development of the values and key competencies of the NZSC by your students.

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Observation Scoring Form: Play-Based Learning Observation Tool (P-BLOT)

Summary of Observation Scoring

Teacher Code: _____ Date: _____
 Observer Name: _____ Start Time: _____
 Finish Time: _____

	Little Evidence	Emerging Evidence	Developing Evidence	Adequate Evidence	Strong Evidence
Average Total Domain Score	1	2	3	4	5

P-BLOT Domain:	Domain Score	÷	Average Domain Score
Part A: The Learning Environment		7	
Part B: Teacher Behaviour		15	
Part C: Overall Judgment Areas: Teacher Practice		9	

P-BLOT Average Total Domain Score	Total Domain Score	÷	Average Total Domain Score
A + B + C =		3	

P-BLOT Domain: Counter-Productive Practice	Total No. of YES	Total Possible	%
Part D: Counter Productive Practice for PBL		8	

49

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Appendix L.
Interobserver Agreement Form

Play-Based Learning Observation Tool (P-BLOT): IOA

Play-Based Learning Observation Tool (P-BLOT)
Inter-Observer Agreement (IOA)

Date of Observation: _____ Teacher Code: _____

Observer 1 Name: _____

Observer 2 Name: _____

Anything unusual about the observation? Yes/No

Observer Notes:

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Part A: The Learning Environment

		<i>Rater 1 Score</i>	<i>Rater 2 Score</i>	<i>Exact Agreement</i>	<i>Within 1 point agreement</i>
	Learning Space				
A1.	A variety of learning spaces, where students can choose to work/play, are available both inside and outside the classroom.				
A2.	The learning space is well-organised with students able to access and put away the resources available to them.				
	Resourcing				
A3.	A variety of small loose parts are available to students to use in their play at their own choosing.				
A4.	A selection of large loose parts are available to students to use in their outdoor play.				
	Management of Learning Environment				
A5.	Management systems are used to ensure students can leave and return to play between teacher-directed and student-directed learning activities with success.				
	Promoting Learning to School Community				
A6.	Learning documentation is made visible and public for students to read/access.				
A7.	Parent information and communication are visually displayed in the learning space, via classroom newsletter and/or blogs.				
Sub-Totals:					

Total number of exact agreements: _____ / 7

Total number of agreements within 1: _____ / 7

Observer Notes:

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Part B: Teacher Behaviour

	Indicators	Rater 1 Score	Rater 2 Score	Exact Agreement	Within 1 point agreement
	Beginning Play – Providing an Invitation				
B1.	Teacher provides an invitation to play with specific resources by introducing these in an engaging way, or drawing students' attention to new resources with suggestions for their use.				
B2.	Teachers encourage imagination and creative thought by inviting students to pretend and engage in socio-dramatic play.				
B3.	Teachers use shared experiences or scenarios, books and/or stories to promote problem-solving in the learning environment.				
	During Play – Teaching through Play: All Learning Domains				
B4.	Teachers use exploration-promoting language including 'I wonder' and 'maybe' and 'have you thought about' when engaging with students in play.				
B5.	Teachers encourage students to share their knowledge and expertise with their peers.				
B6.	Teachers intentionally teach the key competencies and/or learning areas of the NZSC when engaging with students in play.				
B7.	Teachers support specific skill and knowledge development in the context of play by intentionally teaching knowledge and/or skills needed by the student to advance or extend learning in their play.				
B8.	Teachers promote flexible thought and risk-taking by students engaged play.				
B9.	Teachers support students when mistakes occur or ideas fail, assisting students to value their efforts and persevere; promoting a culture of resilience within the learning environment.				
Sub-Totals :					

Total number of exact agreements: _____ / 9

Total number of agreements within 1: _____ / 9

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Part B: Teacher Behaviour

	Indicators	Rater 1 Score	Rater 2 Score	Exact Agreement	Within 1 point agreement
	During Play – Teaching through Play: Cognitive Domains				
B10.	Teachers provide focused teacher-directed literacy and numeracy small group instruction.				
B11.	Teachers engage in reciprocal conversation with students, scaffolding new vocabulary when appropriate.				
	During Play – Teaching through Play: Socio-Emotional Learning Domains				
B12	Teachers intentionally teach social skills as a whole-class, small group and with individual students.				
B13.	Teachers recognise and intentionally teach students emotions and emotion language during play; supporting students to self-regulate and manage their emotions as needed.				
	Management of Behaviour				
B14.	Teachers provide students with rule reminders, when required, including the use of whole-class redirection if the learning environment becomes unsettled during play.				
B15.	Teachers provide logical consequences for the students' mismanagement of play resources and/or for students not following classroom rules.				
Sub-Totals:					

Total number of exact agreements: _____ / 6

Total number of agreements within 1: _____ / 6

Observer Notes:

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Part C: Overall Judgment Areas: Teacher Practice

	Indicators	Rater 1 Score	Rater 2 Score	Exact Agreement	Within 1 point agreement
	Management of Learning Environment				
C1.	Noise level of the classroom is appropriate to the task engaged in by the students.				
C2.	Whole-class transitions (including 'clean up' time) is minimised where practical.				
	Resource Management				
C3.	Teachers provide specific resources in response to current schemas and interests observed in the students' play.				
C4.	There are clear expectations communicated to students regarding the appropriate use of classroom resources.				
	Activities, Timetables & Routines				
C5.	There is a balance of teacher-directed and child-directed learning activities.				
	Planning and Promoting Learning				
C6.	Teachers plan for the development of the learning areas of the NZSC through the use of play invitations.				
	Assessment				
C7.	Teachers observe and document the development of the learning areas of the New Zealand School Curriculum by the students.				
C8.	Teachers collect and analyse data on student literacy and numeracy progress using assessment tools identified in their school assessment policy.				
C9.	Teachers observe and document the development of the values and key competencies of the New Zealand School Curriculum by the students.				
Sub-Totals:					

Total number of exact agreements: _____ / 9

Total number of agreements within 1: _____ / 9

Observer Notes:

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Part D: Counter Productive Practice for Play-Based Learning

	Indicators	Score		Agreement	
		Rater 1 Score	Rater 2 Score	Exact	Within 1
	Management of Learning Environment				
D1.	The teacher has less than 30 minutes timetabled for students to engage in learning through play in the classroom setting.				
D2.	The teacher uses a task board during literacy and numeracy times.				
	Resource Management				
D3.	Play resources are closed, and/or students are restricted in the way these resources can be used for multi-purpose play.				
D4.	Resources are defined by curriculum area and only accessible during specified curriculum times.				
	During Play: Teaching through Play				
D5.	There is significantly more teacher talk at students in the learning environment than student-led discussion or the teacher talking with students.				
D6.	The teacher requires students to complete compulsory low-level, non-differentiated curriculum activities at the conclusion of teacher-directed literacy and numeracy group work to an extent in which their opportunities for play become limited or restricted.				
D7.	The teacher engages with students in ways that prevent, end or delay the play and directs or controls the ways in which students engage in their play.				
D8.	The teacher engages minimally with students during their play, if at all.				

Total number of exact agreements: _____ / 8

Total number of agreements within 1: _____ / 8

Observer Notes:

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Play-Based Learning Observation Tool (P-BLOT): IOA

Summary of Observation Scoring

Teacher Code: _____ Date: _____
 Observer 1: _____ Start Time: _____
 Observer 2: _____ Finish Time: _____

	Little Evidence	Emerging Evidence	Developing Evidence	Adequate Evidence	Strong Evidence
Average Total Domain Score	1	2	3	4	5
Average Total Rater 1					
Average Total Rater 2					
P-BLOT Domain:	Domain Score		÷	Average Domain Score	
Part A: The Learning Environment	Rater 1	Rater 2	7	Rater 1	Rater 2
Part B: Teacher Behaviour	Rater 1	Rater 2	15	Rater 1	Rater 2
Part C: Overall Judgment Areas: Teacher Practice	Rater 1	Rater 2	9	Rater 1	Rater 2

P-BLOT Average Total Domain Score	Total Domain Score		÷	Average Total Domain Score	
A + B + C =	Rater 1	Rater 2	3	Rater 1	Rater 2

P-BLOT Domain: Counter-Productive Practice	Total No. of YES		Total Possible	%	
Part D: Counter Productive Practice for PBL	Rater 1	Rater 2	8	Rater 1	Rater 2

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Play-Based Learning Observation Tool (P-BLOT): IOA

Teacher Code:

Date:

1st Observer Name:

Start Time: 9am

2nd Observer Name:

Finish Time: 11.30am

P-BLOT Domain:	Exact Agreement	÷	%
Part A: The Learning Environment		7	
Part B: Teacher Behaviour		15	
Part C: Overall Judgment Areas: Teacher Practice		9	
Part D: Counter Productive Practice for PBL		8	
TOTAL EXACT AGREEMENT		39	

P-BLOT Domain:	Agreement within 1	÷	%
Part A: The Learning Environment		7	
Part B: Teacher Behaviour		15	
Part C: Overall Judgment Areas: Teacher Practice		9	
Part D: Counter Productive Practice for PBL		8	
TOTAL AGREEMENT WITHIN 1		39	

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Appendix M.

Research Version Teacher Questionnaire

Teaching & Learning Through Play: Teacher Knowledge & Practice Questionnaire
Introduction & Consent to Participate
<p>Kia ora</p> <p>Thank you for agreeing to participate in the following study "Supporting Teacher's Professional Learning and Implementation of Learning through Play in the New Zealand Primary Classroom". This research study aims to identify how to effectively support the professional learning of teachers implementing play-based learning in New Zealand primary school environments. This study forms the basis for my doctoral research, and the requirements of the Doctor of Education degree programme at Massey University.</p> <p>This questionnaire is part of a variety of data gathering tools that will be used to understand teacher beliefs, knowledge and current practice around the use of play as a teaching and learning tool in the primary school classroom. The results of this questionnaire will be used alongside data gathered from classroom observations, as well as interviews and further questionnaires with the teachers involved.</p> <p>It is anticipated that this questionnaire should take 20-30 minutes of your time to complete. All information is confidential and any identifying information collected will only be available to myself and my two supervisors. The raw data gathered in this questionnaire will not be available to any other school personnel, including senior managers and/or Boards of Trustees. This data will be analysed and coded in a way to ensure anonymity when reported and shared as part of the larger research project. Data will only be used for the purpose of the research study, including submission of my thesis and any resulting publications. Data will be stored securely for five years, then subsequently disposed of.</p> <p>A summary of findings can be requested by emailing me on sarahaiono@gmail.com. A summary will be emailed to you at the conclusion of the project (November 2018).</p> <p>You have the right to decline to answer any particular question or discontinue the questionnaire at any point. If you decide to participate, please be aware that responding to any part of the survey implies consent.</p> <p>Thank you for your support.</p> <p>If you have any questions about the study at any stage, you may contact me directly on the following contact details:</p> <p>Researcher: Sarah Aiono sarahaiono@gmail.com</p> <p>Alternatively you may contact my supervisors on the following contact details;</p> <p>Research Supervisors:</p>

Tara McLaughlin: T.W.McLaughlin@massey.ac.nz
Tracy Riley: T.L.Riley@massey.ac.nz

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named in this document is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher or supervisors, please contact Dr Brian Finch, Director - Ethics, telephone 06 3569099 ext 86015, email humanethics@massey.ac.nz.

Learning Through Play

* 1. Please select your Teacher Project Code below:

- ☐ K2
- ☐ K3
- ☐ I1
- ☐ I2
- ☐ I3
- ☐ I5

* 2. Please explain in your own words what play-based learning looks like within a primary school classroom.

* 3. Below are statements about learning through play in the primary school setting. Please indicate your level of agreement to the following statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
When children learn through play they are often imaginative, creative and/or sometimes removed from reality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Successful play-based learning environments are dependent on the amount of physical space available to the children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning through play is process, rather than product driven	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are no clear rules or behaviour expectations in a play-based learning environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a place for teacher-directed activities within a play-based learning environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning through play is best suited to outdoor environments only	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children should be directed away from repeat play activities instead being instructed to try new things regularly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning through play is self-directed and self-chosen by the students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children learn through play when they are active and relaxed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children should engage in risky play at school (eg climbing trees, using power tools etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Children's Learning in a Play-Based Classroom

* 4. Below are statements about children's learning within a play-based classroom. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Children's learning is viewed by their developmental stage, rather than their chronological age	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children are intrinsically motivated to learn new things when engaged in play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Play-based learning is only suited for children transitioning to primary school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult to manage children's behaviour when implementing a play-based learning environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children should be engaged in more formal learning in Year 2 and 3, with play restricted to morning tea and lunchtimes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children have higher incidents of conflict in a play-based learning environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children only learn new things with adult direction and guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children need to be taught 'how' to play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Play remains necessary but is more sophisticated for children aged 7 years and older	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children from backgrounds determined as 'at-risk' or 'traumatic' struggle to play appropriately and need significant support in a play-based environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Teaching & Learning Through Play: Teacher Knowledge & Practice Questionnaire

Curriculum and Assessment

* 5. Below are statements about the resourcing and delivery of learning through play in New Zealand primary classrooms. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Play is an appropriate tool for teaching the values component of the New Zealand School Curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Only board games, sports, or classroom games are activities offered to children in a play-based learning environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is possible to support individual children's needs when they are learning through play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Play is an appropriate tool for teaching the New Zealand School Curriculum Learning Areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children learn through natural interests or 'urges', rather than in specific subject areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Play is an appropriate tool to transition children from ECE to the school setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult to 'teach' literacy and numeracy when children learn through play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Play is an appropriate tool for teaching the New Zealand School Curriculum Key Competencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a place for follow-up activities, including worksheets, in a play-based learning environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Education Policy

* 6. Below are statements about national education policies that may be perceived to impact a schools' ability to implement play-based learning environments. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Health & Safety Policies restrict what children can and cannot do in an environment that promotes learning through play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parents expect their children's learning to be formalised when they attend school and would not support a learning through play approach in the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Education Review Office is not supportive of learning through play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important for school leaders to have a good understanding of the principles of play based learning in order to support the implementation of it at school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other colleagues' understanding of play can be a barrier to the successful implementation of play-based learning in a school environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Describing Play Based Learning Practices and Environments

* 7. What words best describe your current feelings about play-based learning practices and environments?
Select the top 5 that apply.

- ☐ Messy
- ☐ Noisy
- ☐ Engaging for students
- ☐ Engaging for teachers
- ☐ Easy for teachers
- ☐ Hard-work for teachers
- ☐ Expensive
- ☐ Exciting for students
- ☐ Exciting for teachers
- ☐ Exhausting
- ☐ Frustrating
- ☐ A challenge
- ☐ Confusing
- ☐ Chaotic
- ☐ Individualised
- ☐ Developmentally responsive
- ☐ Unstructured
- ☐ Flexible
- ☐ Busy for students
- ☐ Busy for teachers
- ☐ Motivating
- ☐ Reflective

Current Classroom Practice

* 8. How often do your children engage in the following, excluding morning tea and lunchtime breaks, in your classroom?

	Rarely, if ever	Occasionally	Once a week	Daily, during one 'block' of the day	At least half the school day	All day, every day
Board games, maths or literacy games available to them as follow-up activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer play (eg ipads or chrome book apps)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Class sports games of their choice (not including PE lessons)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Free choosing' without teacher involvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discovery Time activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-directed play with teacher indoors scaffolding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-directed play both outdoors with teacher scaffolding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Current Classroom Practice

* 9. Do you currently provide a play-based learning environment for your students?

Current Classroom Practice

* 10. In Question 8 you indicated you provide a play-based learning environment. Please indicate the sentence that best describes your learning environment.

- ☐ The children can choose their play activities during the school day, without direction, but with support, from the teacher
- ☐ The children can choose their play activities during the school day, once they have completed learning activities set by the teacher
- ☐ The children can choose from a set menu of play activities decided upon by the teacher once they have completed learning activities set by the teacher
- ☐ The children engage in play activities set by the teacher throughout the school day

* 11. Please indicate the way in which you teach the following learning areas of the curriculum in your classroom

	Whole Class	Mixed Ability Group	Streamed Ability Group	Learning through Play
Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral Language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Numeracy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mathematics Strands other than Numeracy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visual Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performing Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health & Physical Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* 12. Do you explicitly plan and teach the values component of the New Zealand School Curriculum? Please note 'teach' means to actively unpack the concepts surrounding the values into what this looks like for your students in your classroom and school environment.

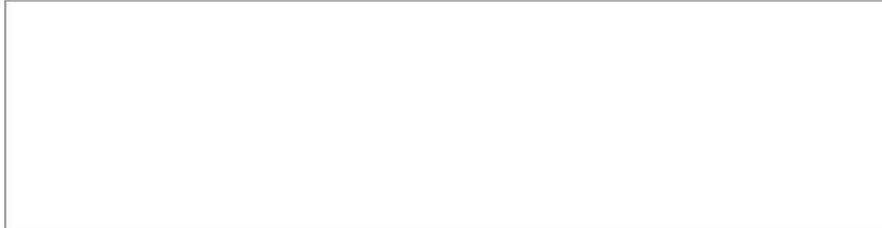
- ☐ Yes I plan and teach the values of the New Zealand School Curriculum
- ☐ Yes I teach the values but in an informal way, often in response to an opportunity arising in my classroom
- ☐ No I do not teach the values of the New Zealand School Curriculum

* 13. Do you explicitly plan and teach the New Zealand School Curriculum Key Competencies? Please note 'teach' means to actively unpack the concepts surrounding the key competencies into what this looks like for your students in your classroom and school environment.

- ☐ Yes I plan and teach the Key Competencies of the New Zealand School Curriculum
- ☐ Yes I teach the Key Competencies but in an informal way, often in response to an opportunity arising in my classroom
- ☐ No I do not teach the Key Competencies of the New Zealand School Curriculum

The Role of the Teacher

* 14. In your role as teacher, please explain how you support students' learning through play.



The Learning Environment

* 15. Which of these words best describe the type of learning resources used in a play-based classroom environment?

- | | | |
|---|--|--|
| <input type="checkbox"/> Board Games and/or card games | <input type="checkbox"/> Jigsaw puzzles | <input type="checkbox"/> Recycled dress ups such as grandparents' clothes, shoes, handbags |
| <input type="checkbox"/> Water trough/buckets or containers or an outdoor water area | <input type="checkbox"/> Colouring and craft activities, paper, glue, colouring pencils etc | <input type="checkbox"/> Large sheets of material, pegs, ropes |
| <input type="checkbox"/> Maths curriculum equipment eg cuisinaire rods, 'teddies', counters | <input type="checkbox"/> Sand or bird seed trays, and/or an outdoor sandpit | <input type="checkbox"/> Ipads or cameras used to take photos or video of play |
| <input type="checkbox"/> Reading or literacy games | <input type="checkbox"/> Metal shovels, power tools, hammers | <input type="checkbox"/> Lego and/or Mobilo |
| <input type="checkbox"/> Tablets, devices and/or computers for games and apps only | <input type="checkbox"/> Commercial 'toys' such as dolls, ready-made shop tills/kitchens etc | <input type="checkbox"/> Wooden blocks of varying sizes/shapes |
| <input type="checkbox"/> Small 'loose parts' such as pine cones, pipe cleaners, recycled bottles, feathers | <input type="checkbox"/> Play dough | <input type="checkbox"/> China tea-sets and glasses |
| <input type="checkbox"/> Recycled 'junk' such as old CDs, broken technology, electric wire, cardboard boxes | <input type="checkbox"/> Play dough cutters, baking trays | <input type="checkbox"/> Toy cars, army figures, small 'dolls/figurines' |
| | <input type="checkbox"/> Commercial dress ups, such as Spider Man, Princess outfits | <input type="checkbox"/> Commercial 'road' carpet square |
| <input type="checkbox"/> Old tyres, large planks of wood, cable reels, pallets etc | | |
| <input type="checkbox"/> Other (please specify) | | |

The Learning Environment

* 16. Can students use resources identified as 'literacy' or 'numeracy' resources in their play outside of literacy and/or numeracy lessons?

- ☐ Yes, the students use the literacy and numeracy resources in their play activities as well as during designated instructional times
- ☐ No, the students can only access literacy and numeracy resources during designated instructional times

* 17. Are your children able to play outside during instructional time? (Instructional time being time excluding morning tea and/or lunchtime)

- ☐ Yes the children play both inside and outside the classroom during instructional time
- ☐ No the children play inside during instructional time and only go outside at morning tea and lunchtime
- ☐ The children, whether inside or outside, do not play during instructional time

The Learning Environment

* 18. What enables your students to be able to play outside during instructional times?

The Learning Environment

* 19. What are some of the barriers that prevent your students from playing outside during instructional times?

Documenting Learning

* 20. What assessment data do you currently collect on students' learning through play?

Challenges & Barriers

* 21. Please indicate below the degree to which the following areas and/or issues hinder or prevent you from implementing play-based learning in your classroom.

	Not a barrier	Occasionally a barrier	Somewhat of a barrier	A consistent barrier	A significant barrier
Time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resourcing (equipment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Senior Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My knowledge & skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Limited human resourcing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parents perception or knowledge of play-based learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health & Safety concerns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical environment (eg space)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Board of Trustees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curriculum coverage concerns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National Standards requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal workload	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education Review Office visits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning levels of the children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Behaviour of students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The cultural and/or ethnic background of students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost involved	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Questionnaire Completion

Thank you for the time you have spent in order to complete this questionnaire. Your answers will be used to contribute to the final outcomes of this study. For further information about this study, please feel free to contact the author via email at sarahaiono@gmail.com.

Appendix N.
Workshop Evaluation Example

Date: _____

Workshop 1: What Teachers Need to Know

Participant Evaluation: Workshop One

Read each statement below and select the response that best describes your reaction to the workshop content, organization, and presenter. Please respond to each question.

		Strongly Disagree	Disagree	Agree	Strongly Agree
1	The workshop was well-organized.				
2	The learning objectives for this workshop were clearly stated.				
3	The learning objectives for this workshop were accomplished.				
4	The trainer(s) who presented the workshop was prepared.				
5	The trainer(s) was effective.				
6	The methods used to present the material in the workshop were effective.				
7	The information presented in this workshop will be useful for me as a primary teacher.				
8	The content of the workshop has direct application to my classroom practice and work with primary school children.				
9	The content of the workshop was appropriately targeted to my abilities and skills.				
10	The content of the workshop is important for primary school teachers.				
11	It is feasible to use play pedagogies in primary school classrooms.				

12	I would recommend this workshop content to other primary school teachers.				
----	---	--	--	--	--

1. Overall, how would you rate the trainer?

Poor

Fair

Average

Good

Superior

1

2

3

4

5

2. Which part(s) of the workshop were most helpful for you?

3. Which part(s) of the workshop were least helpful for you?

4. Other comments:

Thank you for your Feedback

Appendix O.

Workshop Only Group Post-Intervention Interview Protocols

Teaching through Play in the New Zealand Primary School Classroom Post-Intervention Workshop-Only Focused Interview Protocol

Interview Conducted By:	Teacher Code:
Date:	Location:
Interview Recorded by: Video Audio Hand Notes	Recording Complete: Yes No
Duration of Interview:	

Welcome:

The interview process should be opened with a welcoming tone and an appreciation for participating in both the overall project and this final aspect of the data gathering process. Inform the participants that this interview is designed to gather feedback from them on two areas of the project:

1. their experience of implementing teaching through play strategies in their classrooms; and
2. their experience of the practice-based coaching model of professional learning support.

Inform participants that this interview process is confidential and non-identifiable and encourage them to speak openly and honestly about their experiences. Remind participants that any feedback they provide will assist the researcher to refine and improve the way in which PLD is offered to teachers wishing to implement Teaching through Play strategies in their classrooms. Reiterate to the teachers that the researcher is very thankful for the work and commitment they have shown to the project over the school year.

Format/Structure of the Individual Interviews:

Both topic areas have overarching questions and subsequent probing (follow-up) questions that may be used with individual teachers. The interviewer should ask the overarching questions for both topic areas and then decide which subsequent probe questions to use to encourage the teacher to expand on their responses further. If the overarching questions provide responses to these probe questions, the interviewer does not need to ask them.

Topic Areas:

- Teaching through Play
 - Implementation, challenges
 - Student Outcomes
 - Post-project implementation
- Professional Development
 - Workshops

Teaching through Play:

1. Describe your experience in implementing teaching through play practices in your classroom.

Probe Question:

- *How would you characterize your experience? positive, negative, neutral? Why?*
- *Depending on answer:*
 - *Were there any aspects that you did not enjoy about your experience implementing teaching through play in your classroom?*
 - *Were there any aspects that you did enjoy about your experience implementing teaching through play in your classroom?*

2. Thinking about the different strategies you have learned to use, and the way in which you have had to make changes to your classroom environment, what have you found the easiest about implementing teaching through play in your classroom?

Probe Question:

- *Were there any resources or tools that made the implementation of teaching through play easier in your classroom?*
- *Can you identify which strategies were easier than others to implement? (i.e., resourcing your environment, introducing a flexible timetable, communicating with parents, teaching specific problem solving or social skills, teaching the curriculum through play, assessing play and constructing narrative assessments).*

3. How well do you feel you learned to implement teaching through play?

Probe Question:

- *What about this research project was done well, or what did you do, that made teaching through play feasible to implement in your classroom?*
- *What did you find most difficult to implement? What was difficult about learning to use these practices?*

4. Were there any challenges for you in implementing teaching through play in your school environment?

Probe Question:

- *Are these challenges reflective of the school system and processes you are working within, or are they more of a challenge to your own individual teaching methods and beliefs about teaching?*
- *What do you think may be useful to have or use to help overcome these challenges?*

5. Describe the outcomes you have noticed for your students since teaching through play.

Probe Question:

- *Have you noticed any positive outcomes in your students' academic learning? What are some examples of these?*
- *Have you noticed any positive outcomes in your students' social and emotional skills? What are some examples of these?*
- *Were there any negative outcomes for your students? Please give examples.*

6. To what extent do you think you will use teaching through play following the conclusion of this project?

Probe Question:

- *What do you intend to focus on with regards to your teaching through play practices?*
 - *What supports do you think you will need to continue to use these practices?*
 - *What might prevent you from continuing to use these practices?*
7. How worthwhile has it been for you to use teaching through play practices, when considering the effort, you have made, the time you've spent and the progress you have/have not seen in your students?
8. Is there anything else you want us to know about your experience related to using teaching through play practices in your classroom?

Professional Development:

As part of this research project, you participated in a series of four workshops.

1. What content and activities did you find most helpful in preparing you to implement teaching through play practices?

Probe Questions:

- *Would you recommend any changes to the workshops to make them more helpful for teachers learning to implement teaching through play?*
 - *Did you find any specific resource or workshop material useful as part of participating in these workshops?*
2. Is there anything else you would like us to know about your participation in the professional development component of this research project?

Signal to the teachers that this is the conclusion of the interview and ask if there is anything else they want to share about project. Thank them for their participation. Wish them a successful and enjoyable remainder of the school term.

Appendix P.

Coaching Group Post-Intervention Interview Protocols

Teaching through Play in the New Zealand Primary School Classroom

Post-Intervention Coaching Interview Protocol

Interview Conducted By:	Teacher Code:
Date:	Location:
Interview Recorded by: Video Audio Hand Notes	Recording Complete: Yes No
Duration of Interview:	

Welcome:

The interview process should be opened with a welcoming tone and an appreciation for participating in both the overall project and this final aspect of the data gathering process. Inform the participants that this interview is designed to gather feedback from them on two areas of the project:

3. their experience of implementing teaching through play strategies in their classrooms; and
4. their experience of the practice-based coaching model of professional learning support.

Inform participants that this interview process is confidential and non-identifiable and encourage them to speak openly and honestly about their experiences. Remind participants that any feedback they provide will assist the researcher to refine and improve the way in which PLD is offered to teachers wishing to implement Teaching through Play strategies in their classrooms. Reiterate to the teachers that the researcher is very thankful for the work and commitment they have shown to the project over the school year.

Format/Structure of the Individual Interviews:

Both topic areas have overarching questions and subsequent probing (follow-up) questions that may be used with individual teachers. The interviewer should ask the overarching questions for both topic areas and then decide which subsequent probe questions to use to encourage the teacher to expand on their responses further. If the overarching questions provide responses to these probe questions, the interviewer does not need to ask them.

Topic Areas:

- Teaching through Play
 - Implementation and challenges
 - Student outcomes
 - Post-project implementation
- Professional Development
 - Workshops
 - Practice-Based Coaching (PBC)

Teaching through Play:

9. Describe your experience in implementing teaching through play practices in your classroom.

Probe Question:

- *How would you characterize your experience? positive, negative, neutral? Why?*
- *Depending on answer:*
 - *Were there any aspects that you did not enjoy about your experience implementing teaching through play in your classroom?*
 - *Were there any aspects that you did enjoy about your experience implementing teaching through play in your classroom?*

10. Thinking about the different strategies you have learned to use and the way in which you have had to make changes to your classroom environment, what have you found the easiest about implementing teaching through play in your classroom?

Probe Question:

- *Were there any resources or tools that made the implementation of teaching through play easier in your classroom?*
- *Can you identify which strategies were easier than others to implement? (i.e., resourcing your environment, introducing a flexible timetable, communicating with parents, teaching specific problem solving or social skills, teaching the curriculum through play, assessing play and constructing narrative assessments).*

11. How well do you feel you learned to implement teaching through play?

Probe Question:

- *What about this research project was done well, or what did you do, that made teaching through play feasible to implement in your classroom?*
- *What did you find most difficult to implement? What was difficult about learning to use these practices?*

12. Were there any challenges for you in implementing teaching through play in your school environment?

Probe Question:

- *Are these challenges reflective of the school system and processes you are working within, or are they more of a challenge to your own individual teaching methods and beliefs about teaching?*
- *What do you think may be useful to have or use to help overcome these challenges?*

13. Describe the outcomes you have noticed for your students since teaching through play.

Probe Question:

- *Have you noticed any positive outcomes in your students' academic learning? What are some examples of these?*
- *Have you noticed any positive outcomes in your students' social and emotional skills? What are some examples of these?*
- *Were there any negative outcomes for your students? Please give examples.*

14. To what extent do you think you will use teaching through play following the conclusion of this project?

Probe Question:

- *What do you intend to focus on with regards to your teaching through play practices?*
- *What supports do you think you will need to continue to use these practices?*
- *What might prevent you from continuing to use these practices?*

15. How worthwhile has it been for you to use teaching through play practices, when considering the effort you have made, the time you've spent and the progress you have/have not seen in your students?

16. Is there anything else you want us to know about your experience related to using teaching through play practices in your classroom?

Professional Development:

3. As part of this research project, you (1) participated in a series of four workshops, and (2) worked with a coach in your classroom. Which of these parts of the professional development was most helpful in supporting your implementation of teaching through play practices in your classroom? Why?

Let's start by focusing on the workshops

4. What content and activities did you find most helpful in preparing you to implement teaching through play practices?

Probe Questions:

- *Would you recommend any changes to the workshops to make them more helpful for teachers learning to implement teaching through play?*
- *Did you find any specific resource or workshop material useful as part of participating in these workshops?*

Moving on to Practice-based Coaching (PBC)

5. Tell me about your experiences with coaching in this project.

Probe Questions:

- *Which aspects of coaching were most helpful to you?*
- *What about the PBC process was useful for helping you implement teaching through play practices in your classroom.*

6. How helpful was it to have an action plan to support your implementation of teaching through play practices?

Probe Questions:

- *How did you and your coach use this plan?*
- *Did you find anything challenging about using this plan?*

7. What did you think about the length and frequency of the coaching sessions?

Probe Questions:

- *Would you say the frequency of the coaching sessions was enough to support your implementation of teaching through play?*
- *Would you make any changes to the frequency and length of the coaching sessions?*

8. What would you say the impact of PBC has been on your teaching through play practices?

Probe Questions:

- *Has this impact been positive or negative? Why?*
- *If there has been no significant impact, why do you think this might be?*

9. From the list of practices here (use list of coaching strategies), what would you say was the most useful to you in supporting your teaching practice during the coaching process?

Probe Questions:

- *Were there any strategies listed here you found least useful, or confronting to use?*

10. Would you make any changes to the way you worked with your coach?

11. Would you recommend PBC to other teachers if they are looking to improve their teaching through play practices? What would you say?

Signal to the teachers that this is the conclusion of the interview and ask if there is anything else they want to share about project. Thank them for their participation. Wish them a successful and enjoyable remainder of the school term.

Appendix Q.

Massey University Human Ethics Research Office Ethics Approval Letter

79 of about 119 < > ⚙

Human **Ethics** Notification - 4000016986 ▶ Inbox x

humanethics@massey.ac.nz
to A.Lindsay, Sarah.Aiono.1, T.L.Riley, T.W.McLaughlin, M.E.Thomas ▼
HoU Review Group

Fri, Feb 3, 2017, 11:23 AM ☆ ↩ ⋮

Ethics Notification Number: 4000016986
Title: Building Socio-Emotional Competence in the Primary Classroom through Play-Based Learning: Effective Teacher Practice

Thank you for your notification which you have assessed as Low Risk.

Your project has been recorded in our system which is reported in the Annual Report of the Massey University Human **Ethics** Committee.

The low risk notification for this project is valid for a maximum of three years.

If situations subsequently occur which cause you to reconsider your **ethical** analysis, please log on to <http://rims.massey.ac.nz> and register the changes in order that they be assessed as safe to proceed.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

"This project has been evaluated by peer review and judged to be low risk. Consequently it has not been reviewed by one of the University's Human **Ethics** Committees. The researcher(s) named in this document are responsible for the **ethical** conduct of this research. If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director (Research **Ethics**), email humanethics@massey.ac.nz."

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish require evidence of committee approval (with an approval number), you will have to complete the application form again answering yes to the publication question to provide more information to go before one of the University's Human **Ethics** Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

You are reminded that staff researchers and supervisors are fully responsible for ensuring that the information in the low risk notification has met the requirements and guidelines for submission of a low risk notification.

If you wish to print an official copy of this letter, please login to the RIMS system, and under the Reporting section, View Reports you will find a link to run the LR Report.

Yours sincerely

Dr Brian Finch
Chair, Human **Ethics** Chairs' Committee and
Director (Research **Ethics**)

Appendix R.
Interview Transcript Release Authority



Institute of Education – Te Kura o Mātauranga

**Teaching through Play in the New Zealand Primary Classroom:
Comparing Professional Learning and Development Approaches to
Support Teacher Knowledge and Practice**

AUTHORITY FOR THE RELEASE OF TRANSCRIPTS

I confirm that I have had the opportunity to read and amend the transcript of the interview(s) conducted with me.

I agree that the edited transcript and extracts from this may be used in reports and publications arising from the research.

Signature: **Date:**

Full Name - printed

Appendix S.

Second Observer and Interviewer Confidentiality Agreement



Institute of Education – Te Kura o Mātauranga

**Teaching through Play in the New Zealand Primary Classroom:
Comparing Professional Learning and Development Approaches to
Support Teacher Knowledge and Practice**

CONFIDENTIALITY AGREEMENT

I (Full Name - printed)

agree to keep confidential all information concerning the project

.....

.....

.....

..... (Title of Project).

I will not retain or copy any information involving the project.

Signature:

.....

Date:

.....

Appendix T.
Transcriber Confidentiality Agreements



Institute of Education – Te Kura o Mātauranga

**Teaching through Play in the New Zealand Primary Classroom:
Comparing Professional Learning and Development Approaches to
Support Teacher Knowledge and Practice**

TRANSCRIBER'S CONFIDENTIALITY AGREEMENT

I (Full Name - printed) agree to
transcribe the recordings provided to me.

I agree to keep confidential all the information provided to me.

I will not make any copies of the transcripts or keep any record of them, other than those
required for the project.

Signature:

.....

Date:

.....

Appendix U.

Vignette Summaries of Workshop and Coaching Teachers PLD Experiences

As noted in the findings chapter, results presented focused on the summary and comparisons of teachers' practices as measured by P-BLOT. While informative about the changes and progress that teachers made as a result of the PLD, summary results do not illuminate the individual experiences of the teachers before, during and after the intervention. Each teacher's unique experience provides different insights into how motivation, context, and personal circumstances influenced the focus of coaching, outcomes achieved, challenges faced, and directions for future engagement with teaching through play. To try to illuminate more of teachers individual and lived experiences, this appendix provides a brief summary of each W&C teachers' experience during the coaching intervention phase of this study. The individual experiences of the WO group are unable to be shared, due to the small number of participants in this group and risk this information may identify the teachers involved in this group.

Vignette One: Pseudonym "Mary"

Pre-Intervention

Mary became involved with this study because she was curious to see how teaching through play would look with middle-school level students (Years 3/4), and how to support the transition for them from the junior school area (Years 0-3). Pre-intervention classroom observation data indicated a typically traditional classroom environment in which Mary offered some supported choices for her students to pursue their own interest areas within their learning. However, this was in addition to a busy teacher-led timetable and was limited to a short time-period at the beginning of each day. Mary provided a large learning space, both inside and outside the classroom conducive for the students to engage in play. Most students were required to complete compulsory bookwork prior to engaging in play. For many students,

this limited or restricted their opportunities for play, and overall, there was little play observed during the pre-intervention observation.

Celebrations: Enjoyment, Planning and Teacher Confidence in Learning through Play

Across the course of the intervention phase, Mary engaged in a considerable amount of reflection on both her practice and that of her students' learning. She commented that it was "*a whole different mindset*". She demonstrated a shift in her understanding in the links between noticing students in their play, identifying schematic thinking, and reflecting on how to respond to this further in her teacher role. She reflected that she was now better able to plan for children's play, as well as being responsive to the in-the-moment learning opportunities she had not pre-planned for.

Mary grew in confidence and relaxed more in her interactions with students in their play. She did this by incorporating creative elements into the resourcing of her students' play, as well as noticing and responding to student-led exploration of ideas and topics of interest in a more responsive manner. She was observed to increase her use of language that served to extend or scaffold her students' thinking, as well as prompting students to engage in more creative thinking and problem solving. Overall, Mary demonstrated an increased confidence in engaging in longer, more in-depth conversation with her students, exploring concepts and ideas shared by them during their play.

Challenges: Self-Confidence and iPads

The most significant challenge that faced Mary throughout the coaching intervention phase was her self-confidence in making decisions on her teaching approaches and the needs of her students. Mary, at times, reflected upon managing the pressures of school policies and expectations, as well working within a team of other colleagues who were moving at different levels of their own learning and understanding. Initially, she grew in confidence as she began to observe the outcomes of the changes made to her teaching on the way in which her students engaged in play in the classroom. Within her classroom setting, she was confident in supporting her students' in their play and responding at a

localised level to their learning. As the intervention progressed, Mary's students began to demonstrate a shift in the maturity of their play. During coaching sessions 5 and 6, the coach and Mary identified a need for her to begin to incorporate intentional teaching of inquiry methods of learning, to sit alongside the student-led play. Inquiry methods of learning require teachers to support students in investigating their own identified areas of interest through a sequential process, building on prior knowledge and as a result, applying this knowledge and newly acquired skills in their learning (Wilson & Murdoch, 2008). While Mary acknowledged the emerging need by the students for the incorporation of this model into their play, she was hesitant to initiate this further. At the time of the study, Mary's colleagues within her syndicate were completing their own investigations with a view to implementing an inquiry model collaboratively. This investigative process by her colleagues continued for the duration of the coaching phase, with no further decisions made as to its implementation at the conclusion of this study. Mary did not feel confident in trialing relevant approaches with her students in her own setting, despite their identified need for this as their play matured.

A second challenge for Mary came with the inclusion of iPad devices in her learning environment. During the intervention, the school made the decision to become a 1-to-1 device school. Mary expressed concern that she would be viewed unfavorably if her students were not on these devices regularly, as the school had invested significantly in their purchase. However, how to integrate these while maintaining collaborative and socially interactive play was a challenge for Mary. Initially, the students were given free rein in their use of the iPads, quickly resulting in the quality of play within the room diminishing noticeably. Mary found this very upsetting and reflected during a follow up coaching session on the need to find a balance between the integration of technology while ensuring the use of it served to strengthen, rather than disable the interaction of her students in their play. She was encouraged to develop clear boundaries around the use of the iPads within her classroom and their expected use, rather than a free-reign approach. This challenge for Mary reflected the wider issue teachers faced regarding the appropriate integration of devices within a play environment. Not wanting to appear to be 'anti-

technology', Mary did question the relevance of the devices when children had the opportunity to play. Working to upskill her own professional knowledge of device use in the classroom and providing guidance on device use, while supporting child-led play was a constant tension for Mary.

Post-intervention

Mary reported at the conclusion of the coaching intervention a motivation to continue to work on the goals set in her final coaching session. She was confident to continue implementing the practices she had been working on during the study and felt that using teaching through play practices was hugely worthwhile. She identified, in particular, her enjoyment in observing the strong relationships her students had formed across the mixed age range of the classroom group she was responsible for. Mary indicated that the coaching provided her with accountability and 'follow up' to ensure she was on the right track. She identified the little support available to teachers focused on the effective implementation of teaching practices related to play-based learning, and indicated that the coaching provided her with accountability and 'follow up' to ensure she was implementing play practices with fidelity in her classroom. This was clearly an important need for her as a reflective practitioner and one in which she felt was addressed by her participation in the coaching intervention process.

Vignette Two: Pseudonym "Lucy"

Pre-Intervention

Lucy was an excited advocate of play prior to the study beginning and had begun her own exploration of the pedagogy within her classroom practice. However, she was unsure about many aspects of its practical implementation and enthusiastically participated in the PLD with a strong desire to improve her practice further. At pre-intervention, Lucy provided a well-resourced learning environment and a strength in supporting students' socio-emotional development when engaged in their play. Her interactions with her students demonstrated an understanding of the need to support students in play, while not taking over or overly directing the play.

Celebrations: Developing the Teacher Role in Play

Given Lucy's understanding and engagement in the use of play in her classroom prior to the study commencing, a large part of the coaching process focused on developing her teaching strategies and understanding of her role within children's play. She particularly enjoyed engaging in the coaching to shift from believing in the idea of play, to the practicalities of teaching through play in a busy classroom setting. Lucy recognised the critical role the teacher had and that teaching through play was more than establishing a room of play resources. She indicated a desire to refine her interactions with students in their play, to feel as though she was engaged in the act of teaching through play.

Lucy spent several weeks focused on the goal of using positive descriptive feedback to teach the learning areas (such as science, social sciences and technology) within the play. She responded particularly well to modeling during coaching sessions, as well as reflecting on video recorded of her interactions by the coach. This enabled her to address and improve on the way in which she entered, supported and exited students' play appropriately. She reflected on the number of questions she regularly asked of her students when they were playing, and worked to reduce this, while increasing her understanding of naturalistic teaching methods, such as providing positive descriptive feedback.

Challenges: Knowledge of the Curriculum

As Lucy focused on the use of positive descriptive feedback and her role in extending students' knowledge and skills through play, she reflected on her lack of knowledge of the learning areas of the New Zealand Curriculum (NZC). As with many teachers in the study, Lucy was most confident at ensuring her students literacy and numeracy progress but was less so when asked to identify their knowledge in the other areas of the curriculum, including science, social sciences, the arts and technology. As the intervention progressed, Lucy recognised that in order to provide quality feedback to students in their play, she needed to grow her understanding of the expected concepts in these curriculum learning areas. She prepared curriculum resources to support her own use of these concepts when interacting with

students and identified one area at a time to develop her knowledge further. She recognised that until she had the language of the curriculum, she would be unable to incorporate this naturally into her student feedback during play. Session seven of the coaching phase brought the 'aha' moment for Lucy, as she engaged in several role-plays with the coach, as well as modeling within her students' play, to practice the integration of curriculum feedback in a naturalistic way. She reflected during this session that she could see how it all 'fitted' and the way in which the curriculum was taught within the context of the play. During session eight of the coaching phase, Lucy demonstrated a high level of skill in integrating curriculum concepts with her descriptive feedback and this was celebrated during the debrief session as a result.

Post-intervention

Lucy reported, post-intervention, a passion to continue using play pedagogies and a desire to promote these further amongst her teaching colleagues. In addition, she indicated she wished to change year levels, to focus on implementing play in the senior classroom years (years four to eight). She particularly is interested in how play pedagogies could be implemented alongside current self-directed learning opportunities within the senior school, and how the development of children's socio-emotional skills sets further. She indicated, as with Mary in Vignette One, that the coaching supported her ongoing learning process and enabled her to celebrate play pedagogy, rather than being left to implement it without guidance. She valued the relationship that was established with the coach and the humour used to support her when she tried new teaching practices that did not always result in the expected outcome. She felt confident in continuing to embed the learning she had gained as a result of the coaching received during this study.

Vignette Three: Pseudonym “Susan”

Pre-Intervention

Susan is a highly experienced teacher, observed during pre-intervention to use a more traditional style of teaching and learning, such that children were expected to wait for teacher instruction for all aspects of their learning; activities were selected by the teacher at all times; groupings were teacher-organised and usually related to the academic ability of the students; and there were significant use of non-differentiated activities, such as worksheets and colouring activities when the teacher was occupied with groups of children. As a result, Susan was often required to follow up with individual children to ensure completion and compliance. Susan was observed to provide a high level of direction for all her students, with opportunities for child-guided play minimal prior to the intervention commencing. She was hesitant about shifting a level of control to the students and enabling student-led learning within her classroom setting.

Celebrations: Providing a Balance of Adult and Child-Guided Learning Experiences

Susan's most significant celebration across the course of the coaching intervention arose from her most significant challenge – to shift from a predominantly adult-guided learning experience to providing balanced opportunities for both explicit teaching (adult-guided) and child-guided learning through play. Initially Susan indicated a feeling of unease at 'letting go' of the control in her programme and shifting the balance of this to her students. She indicated at times child-guided learning through play felt chaotic, although acknowledged that this was as a result of her internal discomfort rather than any specific behaviour exhibited by the students. The coach focused on enabling Susan to make connections between what the children were choosing to do in their play, evidence of the curriculum within this play and Susan's role in teaching through play as a result of these choices made by the children.

During session four of the coaching intervention Susan began to demonstrate more confidence and comfort in child-guided learning and an understanding of her role in responding to the schema and

interests children demonstrated in their play. Her students were provided with more opportunities to engage in well-resourced play that she then acknowledged and responded to further as the play developed. By session six of the coaching intervention, the focus had shifted to the balanced integration of explicit teaching of literacy and numeracy, alongside child-guided learning through play experiences. With Susan's agreement, the coach timed how long Susan spent out in the play with the students, and how long she spent seated engaged in explicit teaching of literacy. The aim was to find a balance between the two. This balance was achieved during Session seven and as a result Susan indicated a confidence in understanding her role within play, while feeling reassured she was still engaged in the quality delivery of adult-guided literacy and numeracy instruction.

Challenges: Colleague Support and Collaborative Teaching Spaces

During the coaching phase of the intervention, the structure of Susan's teaching syndicate changed significantly, and Susan was required to move into a large, collaborative, open-plan space. Initially, Susan was one of three teachers working collaboratively within a semi open-plan teaching space. Susan was the only teacher involved in the study, with her two colleagues indicating a resistance to both teaching through play and a collaborative teaching initiative implemented by new school leadership. This impacted on Susan's confidence and willingness to try new teaching approaches, with a significant amount of time spent on during coaching sessions on problem-solving how to validate teaching through play to her colleagues. Collaboration between the team was a challenge, given the different teaching styles and beliefs held by the individual teachers involved.

However, these colleagues left the school mid-way through the coaching intervention, and Susan was given management responsibility for a new team, two of which were beginning teachers and the third a teacher with some experience in child-guided play. A renovation of the learning space to incorporate a fourth teaching area also occurred. As a result, this shift in role, along with a new team of colleagues receptive to adopting teaching through play approaches gave Susan additional confidence to address

issues arising in the teaching space, such as resourcing of play, management of the physical space, and identifying the learning occurring within the play. Her ability to respond to and feel confident about the learning occurring during play significantly increased, and she was involved in ongoing professional reflections with her team daily. She was noticeably happier in her teaching, demonstrating a confidence in articulating the benefits of the play occurring in the classroom environment. A collaborative approach was implemented by all four of the teaching team, with shared goals and a vision for the integration of teaching through play clear within the new teaching space.

Post-intervention

Susan indicated a desire to continue to grow her practice post-intervention and felt confident in applying what she had learned as a leader within her teaching team. She was also interested to follow her students' progress as they left her classroom and moved through to eventually reach the senior levels. She was interested to observe whether the students' attitudes, relationships and emotional skills would continue to improve as a result of the foundation they had received in her play-based environment. She reported that being involved in the PLD had been refreshing and exhilarating and indicated this was exciting, given the number of years she had been teaching. She indicated that she had a zest for teaching again, as a result of engaging in practice-based coaching.

Vignette Four: Pseudonym "Jane"

Pre-Intervention

Jane is a teacher with over 30 years' experience across a range of year levels and subject areas. During pre-intervention, she demonstrated a developing understanding of resourcing play, management of behaviour and the timetabling of play alongside adult-guided teaching activities. She was very interested in the use of play to enable students to follow their own interests and ideas but was unsure as to what her role was in doing this, while preserving the nature of child-guided learning through play. This became the predominant focus of the coaching Jane received over the course of the intervention.

Celebrations: Play Invitations and Creating Independent Learners

Jane quickly demonstrated a strength observing her students' interests and schema and responding to these by resourcing the room using play invitations, in such a way that encouraged creative exploration of these interests through play. Examples of this included the introduction of fairy gardens, airport construction, small world resourcing and outdoor transportation play. As a result of this resourcing, the level of play that occurred was mature and complex, often extending over a significant time period. Students were encouraged, through Jane's modelling and dialogue, to explore new ideas in their play, problem-solve and engage in creative and complex fantasy play. Jane continued to reflect on the response of her students to the resources she integrated into the environment and adapted to suit these in a way that extended and scaffolded new learning through play.

Jane was intentional about encouraging independent learners and thinkers in her classroom environment. It was soon apparent to Jane at the beginning of the coaching intervention that her students needed reassurance that they could make their own decisions, without gaining permission from her for every step along the way. Throughout the coaching process, Jane and the coach discussed the ways in which Jane could continue to promote independence of thought and encourage them to be confident in their ability to make their own decisions. As the intervention progressed, the intentional teaching by Jane in decision making and problem-solving saw students mature in their thinking and a growth in confidence by her students as they interacted with each other in their play.

Challenges: Questioning Children in Play and Curriculum Knowledge

Jane continued to find achieving the balance of questioning students and the use of positive descriptive feedback as an ongoing challenge throughout the coaching intervention phase. Initial coaching sessions focused on growing her awareness about the number of questions she asked of students when interacting with them in their play. The use of graphic feedback during the debrief session supported her to see the need for this to be practice focus. However, while she acknowledged the need

to address this, she readily admitted she found it extremely difficult to “undo” the many years of question focused teaching practice driving her teaching behaviour. Through a combination of coaching strategies, including role-play, modelling and videoing her interactions with students, she began to consciously modify the way in which she entered and exited students play.

As Jane became more aware of the need to provide positive descriptive feedback more frequently, and reduce the amount of questioning she engaged in, it became apparent that Jane’s curriculum knowledge needed further support. She acknowledged a lack of confidence in supporting the development of the curriculum key learning areas, such as the sciences, technology and social sciences, by integrating these into students’ play. Initially, she was able to identify play that exhibited a science base but did not have the language to intentionally teach this using naturalistic teaching strategies and positive descriptive feedback. Coaching sessions focused on increasing Jane’s knowledge of key terms within the learning areas of the curriculum and using these to intentionally teach new concepts alongside students’ play.

Post-intervention

Jane acknowledged, post intervention, that she would continue to focus on building her knowledge of key curriculum terms and her intentional use of these alongside students’ play. She reported her experience of the intervention had been extremely worthwhile and she was looking forward to starting the next school year with the knowledge she had gained through her involvement in the study. Jane indicated that she was confident in a plan to begin implementing teaching through play from the first day of the new school year, and use the holidays to set up the learning environment to reflect her new knowledge about play pedagogies. She was also keen to continue implementing teacher observations of play and using this data to inform narrative assessment practices in her room and across her school setting. Jane was particularly passionate about using narrative assessment to provide her parent community with the ‘story’ about their children and their learning, thus providing a holistic account of the

child's progress at school. She intended to pursue this further with her senior management and advocate for more child-centered assessment practices as a result of her engagement with this study.