Adults and children engaging with ePortfolios in an early childhood education setting

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Abstract

While common across the primary, secondary and tertiary sectors of education, ePortfolios are relatively new in the early childhood education sector, nationally and internationally. They are, however, becoming more widespread in Aotearoa New Zealand as a platform to present children's formative assessment documentation. There is very little documented evidence of the use of ePortfolios in early childhood education (ECE) and as such little is known about how they could impact on parent and whānau[1] engagement with their children's learning; teachers' formative assessment practices; how they contribute to children's learning journeys and indeed how children could use ePortfolios. This study located in Aotearoa New Zealand investigated the use of ePortfolios in an early childhood education setting and how teachers, parents, whānau and children engaged with them, in comparison to their engagement with paper-based portfolios.

The ECE setting involved in this research was using paper-based portfolios as artefacts to document children's development and learning over time, and had been doing so for several years prior to the research being undertaken. The setting had a history of robust documentation but struggled to find ways that enabled parents and whānau to contribute to this documentation in a written form. After a period of investigation into the use of paper-based portfolios, and their effectiveness in encouraging parents and whānau to contribute, ePortfolios were introduced. Accordingly this research presents a comparative study of paper-based portfolios and ePortfolios.

After the introduction of ePortfolios, significant changes were evident in the ways that parents, whānau and teachers engaged with the learning documentation contained in the ePortfolios. Changes were also evident in the

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[1] Whānau means family in the language of the indigenous people of Aotearoa New Zealand – Māori.

teachers' formative assessment practices and in the ECE setting's community of practice, which at the onset of the research was just developing.

Consequently the research underlined the importance of portfolios, in whatever format, as artefacts which encourage children, their families and teachers to revisit their learning – allowing for support and extension of the learning. This thesis presents these findings and discusses the implications for practice and policy.

Dedication

This thesis is dedicated to my father

– Dr Peter Ramsay –

Former Professor and Dean of the School of Education

at the University of Waikato

*Dad, you inspired me to start this journey and I'm
sorry that your illness took hold before you could see
me finish it.*

This thesis is for you.

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Chapter One: Introduction and background

1.0 Introduction

Early childhood education (ECE) plays a pivotal role in the education of many young learners in Aotearoa[2] New Zealand. In 2013 200,942 children were attending some form of early childhood education (Ministry of Education, 2015). A variety of services are available in Aotearoa New Zealand and these include:

- ➢ Education and Care settings
- ➢ Kindergarten
- ➢ Home-based settings
- ➢ Correspondence school
- ➢ Playcentre[3]
- ➢ Te Kōhanga Reo[4]

This study is situated in one of these services – an all-day education and care setting.

A notable attribute of early childhood education is partnership with parents and whānau. Parents and whānau play a fundamental role in their young children's learning, and finding ways to engage them in this learning is an important function of an early childhood education setting. One of the key ways of engaging parents and whānau in Aotearoa New Zealand is through the sharing of formative assessment documentation such as Learning Stories (see Chapter Two) in portfolios. In my experience working in early childhood education, this is often easier said than done. Parents and whānau report issues such as time factors and other commitments as things that get in the way of using this tool for

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[2] Meaning "Land of the long white cloud" – the name given to New Zealand by the indigenous Māori people.

[3] Parent-led ECE setting unique to Aotearoa New Zealand which offers ECE to small groups of children and training courses to parent members.

[4] Established in 1982, Kōhanga Reo is aimed at strengthening and preserving the Māori language though participation in ECE.

engaging with their children's learning to its fullest potential. The use of online ePortfolios is becoming more common; this thesis is concerned with whether this new technology enables busy parents and whānau to have enhanced engagement in their children's learning.   It also seeks to explore whether children engage in a different way with their own learning and that of their peers when ePortfolios are introduced. Finally, it investigates whether the formative assessment practices of teachers change through using this new technology.

1.1 Position of the study

This study is both important and timely. The use of ICT in early childhood education settings and children's homes is both increasing and becoming more acceptable. Children of the 21st century are being continually exposed to an array of ever evolving technology (Bennett, Arvidson, & Giorgetti, 2004; Ching, Wang, Shih, & Kedem, 2006; Dooley, Flint, Holbrook, May, & Albers, 2011; Grey, 2011; Kankaanranta, 2001). In 2007 Morgan noted that although children are familiar with new technologies in the home they tended to be slow to filter into early childhood education settings. However emerging research indicates that this is no longer the case, as children are being exposed to more and more technology within such settings (Fleer, 2000, 2011; Grey, 2011; Khoo & Merry, 2012; Khoo, Merry, Bennett, Macmillan, & Nguyen, 2012; Stephen & Plowman, 2008). It is important in today's educational environment that children are able to access technology (if they choose to), alongside traditional methods of learning, to enhance their development (Yurt & Cevher-Kalburan, 2011).   In addition, evidence emphasises the importance of parents and whānau being given the opportunity to engage with and support their children's learning (Brooker, 2002; Hattie, 2010; Siraj-Blatchford, 2010). Research has shown that children whose close family are interested in and involved with their learning from a young age are more likely to do better in more formal educational settings and later life than those whose parents and/or whānau are not engaged with their learning (Halgunseth, 2009; Hango, 2007; Waanders, Mendex, & Downer, 2007). As noted by several authors, parent and whānau engagement is also a widely acknowledged indicator of quality in children's educational settings

(Cankar, Deutsch, & Sentocnik, 2012; Douglass, 2011; Hattie, 2010; Howe & Simmons, 2005; Ministry of Education, 1996).

Therefore the rationale for this research was as follows:

(i)   ePortfolios are here – they have become a feature of a significant number of early childhood education services. Providers, such as the one used in this study (Educa), are becoming established and their tools are influencing the ways in which teaching and learning are documented.

(ii)   It was not known what the effects of ePortfolios would be on:

        a. Teachers formative assessment practices

        b. Adults engagement (teachers, parents and whānau)

        c. Children's engagement

(iii)   Although some research had been undertaken which investigated children's use of computers and other forms of digital technology in early childhood education (Dodge, Husain, & Duke, 2011; Grey, 2011; Pohio, 2009; Stephen & Plowman, 2008; Wood, Specht, Willoughby, & Mueller, 2008; Yurt & Cevher-Kalburan, 2011), after numerous literature searches only two studies about using ePortfolios as an assessment and documentation tool for children in such settings could be found (Ministry of Education, 2014c; Schallhart & Wieden-Bischof, 2010). The portfolios used in early childhood education in Aotearoa New Zealand are unique, and as ePortfolios are a new player on the scene this is not surprising.

1.2 Researcher background

Assessment for learning within early childhood education has been a concept close to my heart since undertaking my under-graduate teaching degree, a Bachelor of Education at the University of Waikato in Hamilton, Aotearoa New Zealand. I began on this degree in 1993, and what a great year to start! The timing was fortuitous as the inaugural early childhood education curriculum in Aotearoa New Zealand, *Te Whāriki* (Ministry of Education, 1996), was being developed. Even more fortunately, my lecturers at the University of Waikato included Margaret Carr and Helen May, co-authors of the document

alongside Tilly and Tamati Reedy from the Kōhanga Reo National Trust[5] (Nuttall, 2013). As one of the cohort of students who had access to the draft I felt proud and privileged to be on the path to becoming a teacher in Aotearoa New Zealand. Those years were some of the most important in the history of ECE, not only in Aotearoa New Zealand but also internationally.

As a teacher in the ECE sector for 12 years I was passionately determined that the ECE settings I worked in should provide quality education and care, a feature of this being formative assessment practices in which teachers, parents, whānau and children were involved. I soon discovered that this was not an easy task. From starting in a setting where assessment just wasn't important, so that the bare minimum was completed, to finishing my on-the-floor teaching in a setting where the parents wanted worksheets, therefore summative assessment, as opposed to formative assessment, my frustrations grew.

In 2001 I gained a new position as a Visiting Teacher (Co-ordinator) for a home-based early childhood education and care network. Working with un-qualified educators was a totally different experience from working with mostly qualified teachers. However, the team I was in was firmly committed to guiding our educators (then known as carers) to provide quality early childhood education and care. As in the centre-based settings, formative assessment had to be part of this. Regular professional development sessions were held for the educators, alongside one-on-one sessions during visits to their homes, to help them develop the skills necessary for completing worthwhile formative assessment. This was a challenge. Many of the educators were resistant to writing Learning Stories as they either thought they couldn't do so or did not want to do so. In 2006 one of my colleagues and I undertook a Masters paper at the University of Waikato with Sally Peters and Margaret Carr. Through this we were inspired to undertake some research into how we could pass our enthusiasm for formative assessment on to our educators.

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[5] See footnote 4

We applied for research funding from the New Zealand Council for Educational Research's Teaching and Learning Research Initiative, with Sally Peters as our University Researcher. We were successful in gaining this funding and embarked on a year-long study entitled *Training on the Job: How do Home-based Co-ordinators support educators to notice, recognise and respond.* Through this project the educators were able to see the value of formative assessment, and their confidence and competence grew in presenting the documentation. However, as in the centre-settings, although parents and whānau read the stories and shared them with the children, the real engagement of contributing to the documentation did not happen.

When I moved on to tertiary teaching in 2008 and began visiting initial teacher education students, it was apparent that the difficulties around parent and whānau engagement through contribution to assessment documentation were a shared frustration. In 2010 I attended a presentation on ePortfolios. This was facilitated by Heath Sawyer, who was contracted to the Ministry of Education to implement the programme in schools. He was so enthusiastic about the possibilities for school children that it got me thinking about whether ePortfolios would assist in parent and whānau engagement in ECE settings. At around the same time one of my colleagues attended a conference and discovered the newly created ePortfolio provider Educa, designed especially for ECE. This was where the inspiration for my PhD research came from.

There has been very little work undertaken in this area, nationally or internationally. In fact, after an extensive literature search, the only references I could find to any research carried out in early childhood education about the use of ePortfolios as an assessment tool appeared in three small studies. The first, in Austria, investigated how ePortfolios could involve children in selecting their own documentation (Schallhart & Wieden-Bischof, 2010). The second, located in Aotearoa New Zealand, involved two settings and was undertaken by the Ministry of Education (2014a; 2014b; 2014c). This study provided a snapshot of

how ePortfolios could be used to encourage parents and whānau to become involved in their children's ECE settings. It is therefore timely that further investigation is undertaken. The findings of this research could have a significant impact on the practices of early childhood education teachers. The ways in which they complete formative assessment and present this to parents, whānau and children have the potential to transform formative assessment practices.

1.3 ECE Setting background and pedagogy

The ECE setting that participated in this study was part of a community trust in a large city. The setting was established in 1972 by a local couple, and was the first early childhood education and care centre in the city. In 1976 the centre was gifted to the community and the Trust was established.   Since then the setting has been run as a not-for-profit organisation governed by members of the community, parents and staff representatives. The Trust grew to incorporate two further centres, one of which has just closed, and the first bicultural centre in the city, which closed in the early 2000s. The Trust also operated three home-based childcare networks in the city and neighbouring provincial towns.

Historically, this ECE setting has been a leader in early childhood education in Aotearoa New Zealand, and in particular in the region where the setting is located. From the very early days the centre sought to provide above an average standard of care and education for children and strived to support the service's families and community. This pledge saw the Trust commit to low fees, child:adult ratios which exceeded regulated requirements, employing 100% qualified teachers and supporting low income families, sometimes charging no fees at all. However, due to financial pressure from changes to Government funding the Trust has struggled in recent years. In March 2015 it was announced that they would be gifting all of their services to another large community provider in the area. On hearing of this, a former employee of the Trust noted the following points in her role as a review officer for the Education Review Office, highlighting the impact the setting and the Trust had on the early childhood education sector:

- The first centre in [the city], [the setting] was gifted to the community, and became a non-profit organisation governed by community and parent reps, everything went back to providing the very best outcomes for children. Children were the number one priority.
- A commitment to equity for children demonstrated by low parent fees, and making high quality education available for all children (often not charging fees for low income families, well before the 20 free hours policy came in).
- Commitment to the highest quality of education and care and have been leaders in action research over the years that has changed practices in the sector. For example working with Margaret Carr to develop the draft curriculum *Te Whāriki*, project for assessing young children (first to implement Learning Stories along with a few other ECE settings).
- The service over the years had international researchers and educationalists visit the centres and view assessment and practices while in the country.
- The centres and home-based documentation and staff knowledge have helped develop many of the Ministry of Education (MOE) resources available on their website for the sector (including the implementing *Te Whāriki* DVD series).
- It was the first service to offer a bicultural centre in [the region].
- MOE historically and now access the director and admin manager of the Trust to provide guidance around wise practice in employment, systems, practices and education.
- Floating/rolling morning/afternoon kai was introduced at [the setting] about 20 years ago, some people are only just learning about this practice.
- Staff within the organisation have consistently been leaders in early childhood education and care, often contracted by MOE to provide advice around policy or curriculum in centre and home-based education and care. Many staff from the organisation including myself have in the past and present been contracted by MOE to provide professional development for other ECE services in assessment, governance, management and curriculum.
- The Trust was the first ECE setting to introduce what is known now as the "key teacher[6] role" it was called "support person procedure" based on attachment theory for all children, not just babies.
- The Trust's philosophy in regards to providing positive guidance for children, as opposed to a disciplinary approach, saw them become leaders in this area. It was central to developing MOE recommended guidelines for ECE (non-aversive behaviour management it was called back then, credit based learning rather than a punishment model).
- The Trust successfully grew leaders. People associated with the Trust are now well known lecturers and researchers. Others have also gone on to have impressive career paths in the sector and academically (Personal Communication, March, 2015).

It was for these reasons that I invited this ECE setting to be part of my research project. The service had shown strong commitment to the early

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[6] Each child in the setting, with their family/whānau is allocated a key teacher. This teacher is the person who develops a special relationship with the child and their family/whānau. They take responsibility for their children's portfolios and also for passing on information in other ways to the family/whānau.

childhood education sector with staff continuously undertaking professional development and reflection to improve their practice. There was also a deep sense of whakawhānaungatanga[7] and of wanting to ensure that the community was part of the ECE setting. However, another key reason for choosing this setting was a distinct lack of information and communication technology (ICT). At the start of the research period the setting did not have access to the internet; emails were sent via the Trust offices. The ECE setting's desire to provide formative assessment documentation with which parents and whānau would engage together with their 'phobia' of ICT made them the perfect participant in this research.

1.4 ePortfolio provider

The ePortfolio platform used in this study was Educa. Educa is a web-based portfolio which was tailor-made for early childhood education in Aotearoa New Zealand. This was an important consideration for me as I wanted a system which was very appropriate for services in Aotearoa New Zealand and linked to *Te Whāriki*, the early childhood curriculum (Ministry of Education, 1996). The founder of Educa, Nathan Li, worked alongside the early childhood education community to design the platform. He was very responsive to the sector's needs and built the system with recommendations from early childhood education teachers, parents and academics. Originally from China, Li immigrated to Aotearoa New Zealand in 2001 at 21 years of age to pursue a tertiary qualification in computer science and had a career in information technology for ten years prior to starting Educa. The inspiration behind Educa was his daughter, Nancy; he said "I started Educa because of love" (interview, March, 2015). When Nancy started preschool in 2009, Li felt that he and his wife were missing out on what she was learning and doing whilst at her ECE setting. He said:

> I felt a huge disconnection between her life in preschool and life at home. We did not know what she learned at preschool and the teachers did not know what she's up to at home. I started Educa which was aimed to bridge the communication gap between preschool teachers and parents (interview, March, 2015).

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[7] The process of establishing and nurturing relationships.

Therefore the platform was developed to foster a connection between ECE settings and children's home lives. This became the simple philosophy behind Educa.

The Educa Template

A template for teachers to use when writing their formative assessment documentation was designed by Li, in consultation with early childhood education practitioners and researchers. Simple in format, it captures the necessary requirements of a learning story (the main type of assessment documentation used in early childhood education in Aotearoa New Zealand – see 2.2). The template has a space to record the body of the learning story and this is followed by two prompts: *What learning was happening here*? and *Opportunities and possibilities*. Teachers are able to make links to the early childhood curriculum of Aotearoa New Zealand *Te Whāriki* (Ministry of Education, 1996) by selecting which strand or strands[8] the learning story is meeting. This is followed by space for parents, whānau and teachers to make further comments. An easy to follow but powerful and educationally sound template is essential in an ePortfolio platform for use in early childhood education; this will be discussed in this thesis.

1.5 Organisation of this thesis

This thesis is organised into eleven chapters. This first chapter introduces the thesis, the ECE setting and the ePortfolio provider. It sets the intent for the study and following chapters. Chapter Two presents the literature which informed the study and highlights the key factors for consideration. These are: formative assessment; Learning Stories and their consequences; portfolios and their consequences; ePortfolios and their consequences; and finally parent and whānau engagement in early childhood education. The research questions are introduced in this chapter. Chapter Three discusses the theoretical framework

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[8] There are five learning strands in *Te Whāriki* – Belonging, Wellbeing, Exploration, Communication and Contribution.

on which the study is based: Communities of Practice (Lave & Wenger, 1991; Wenger, 1998, 2000, 2011, 2015a, 2015b; Wenger, McDermott, & Snyder, 2002; Wenger & Snyder, 2000). The framework is defined and the components of a community of practice are presented. Links are made to social learning theory and to portfolios as artefacts of children's learning. The chapter also presents the limitations of a community of practice for this purpose. This is followed by Chapter Four where the methodology and data collection methods are established and the study's ethical considerations outlined. The use of narrative inquiry and case studies is described, as well as the data collection methods of interviews, surveys, observations and portfolio analysis.   The chapter also includes a description of the research sample, including how participants were selected. Chapter Five is the first findings chapter. This chapter discusses the use of paper-based portfolios within the ECE setting. It also defines parent and whānau perspectives about paper-based portfolios and how they use them with their children. The findings in Chapter Five are based on the initial and Midway Surveys, observations and an analysis of the paper-based portfolios belonging to the case study children. Finally the themes which emerged from the first round of findings are identified and discussed. Chapter Six introduces the nested case studies. Each case study is defined and the participants are described. The participants' experiences with paper-based portfolios and ePortfolios are discussed and examples are provided. Chapter Six draws on data from interviews with the case study participants and from analysis of the children's portfolios. The chapter concludes with a further discussion of the emerging themes. Chapter Seven is another findings chapter. This chapter focuses on ePortfolios and discusses the participants' experiences with these. It also explores any changes which occurred after the introduction of ePortfolios into the ECE setting. Emerging themes are highlighted and suppositions are discussed. The findings in Chapter Seven are drawn from the Midway and Final Surveys, teachers' reflections, interviews with management and analysis of the case study children's ePortfolios.

The next three chapters each investigate and discuss the main themes to have emerged from the study. Chapter Eight focuses on parent and whānau engagement with their young children's learning. Chapter Nine discusses changes to the teacher's formative assessment practices which occurred in the course of the study. Chapter Ten identifies the importance of portfolios and how they contribute to children's revising of their learning through recalling, reconnecting and restarting. The final chapter of this thesis, Chapter Eleven discusses the implications of the findings, the limitations of the study and identifies areas for further research. It also contains an evaluative tool designed to assist early childhood settings in identifying which form of portfolio is right for them and their community.

Chapter Two: Literature Review

2.0 Introduction

There are several categories for consideration in this study:

(i)   Formative assessment

(ii) Learning Stories and their consequences

(iii) Portfolios and their consequences

(iv) ePortfolios and their consequences

(v) Parent and whānau engagement in early education

All of these factors are important components of early childhood education and have the potential to transform teachers' practice, and therefore the quality of education and care provided by an ECE service. This literature review will discuss each factor in turn and demonstrate, by referring to relevant research, how they are important to ECE in Aotearoa New Zealand and internationally.

2.1 Formative assessment

Assessment practices which document children's progress whilst attending formal education settings are a key focus of educators, for a number reasons (Downs & Strand, 2006). These include issues such as accountability for teachers and settings; the use of formative assessment as a tool to identify 'at-risk' children; its use to detect specific trends in early childhood education; and its function as a means to assess and promote children's learning (Boat, Zorn, & Austin, 2005; Downs & Strand, 2006; Gredler, 2000; Shaughnessy & Greathouse, 2006).

Globally there are differing purposes behind assessment for children attending early childhood education and care settings.   Much of this is summative assessment as opposed to formative assessment. For example, in the United States of America this assessment is intended primarily to provide a form of accountability by identifying 'at-risk' children and those with learning difficulties (Boat et al., 2005; Downs & Strand, 2006; Gredler, 2000; Shaughnessy & Greathouse, 2006). This form of assessment can be viewed as a deficit model which provides summative information in order to identify gaps in children's

development. Stobart (2014) points out that tests may play a part in formative assessment if the responses are used to identify what has, and has not, been understood, and if this leads to action to improve learning. While useful in some settings this form of summative assessment is not adequate to provide detailed information on how children learn and develop because summative assessment is decontextualised. In other countries, such as the United Kingdom, Italy and New Zealand, the move towards formative assessment (also assessment for learning) has strengthened over the last several decades (Bath, 2012; Carr, 2001). This move means that children have become more visible in their own learning by becoming active contributors to that learning. Formative assessment aims to improve student outcomes for all children (Black & Wiliam, 1998a, 1998b; Carr, Cowie, & Davis, 2015; Hill, Cowie, Gilmore, & Smith, 2010). Paul Black and Dylan Wiliam have written extensively on the role of formative assessment in education, influenced by the work of Royce Sadler (1989; 1998) who argued that formative assessment must be about children contributing to their own learning. Black (2001) described formative assessment as a tool for educational reform, moving away from summative assessment which, he supposed, has negative effects on learning. In 1998, Black and Wiliam explored what they termed *Inside the Black Box*, the black box being the classroom into which inputs were fed and from which good outputs were expected. They proposed that further research needed to be undertaken inside the classroom to explore what they termed "the heart of teaching" – formative assessment (Black & Wiliam, 1998b). Black and Wiliam went on to argue that teaching and learning must be a co-operative venture; there needs to be interaction between the teacher and the student, the student and teacher and the student and their peers for most effective learning to take place (Black & Wiliam, 1998b). To further strengthen this learning relationship parents and whānau must also be engaged somehow in their children's learning. This will be further discussed later in this chapter. In 2004 a follow-up project to *Inside the Black Box* was undertaken (Black, Harrison, Lee, Marshall, & Wiliam, 2004). The project team worked with teachers inside their classrooms to improve their teaching practices

by using formative assessment practices or assessment for learning. Black et al. (2004, p. 10) defined assessment for learning as follows:

> Assessment for learning is any assessment for which the first priority in its design and practice is to serve the purpose of promoting students' learning. It thus differs from assessment designed primarily to serve the purposes of accountability, or of ranking, or of certifying competence. An assessment activity can help learning if it provides information that teachers and their students can use as feedback in assessing themselves and one another and in modifying the teaching and learning activities in which they are engaged. Such assessment becomes "formative assessment" when the evidence is actually used to adapt the teaching work to meet the learning needs.

Black and Wiliam's work (and that of other researchers investigating formative assessment) sits predominantly in the primary and secondary education sectors and focuses on enabling teachers to carry out formative assessment practices (Bell & Cowie, 2001; Black et al., 2004; Black & Wiliam, 1998b; Clarke, Timperley, & Hattie, 2003; Crooks, 2002; Crooks, 1988; Hill et al., 2010).   In 2005 Bronwen Cowie reported on what formative assessment practices actually meant for students. The data for this study came from the Learning in Science (Assessment) project (Bell & Cowie, 2001). Students from year 7 (10-11 years) up to year 10 (14-15 year olds) and their teachers were interviewed to obtain the data. The students in this study viewed themselves as "active and intentional participants in classroom assessment interactions" (p. 150). Cowie's findings, interestingly, link to much earlier research undertaken by Sadler (1989), who as mentioned above claimed that children must contribute to their own learning.   The findings also echo Black's assertion that peers are valuable sources of formative assessment (Black, 2010; Brown, Harris, & Harnett, 2012). Students in this study also valued timely feedback from their teachers, particularly in the form of suggestions. This was also a finding in a study carried out by Brown et al. (2012) which investigated teachers concepts of feedback. Most importantly, Cowie identified that the assessment practices in the classroom helped to define how the students viewed themselves as "learners and knowers": in short how their own identities as learners were developed, an important concept for consideration in early childhood education (Carr & Lee, 2012; Cowie, 2005).

In recent years in Aotearoa New Zealand, formative assessment has come to the fore in early childhood education settings as in the other educational sectors mentioned above (Carr, 2009). This has particularly been the case since the introduction of the national curriculum for early childhood education, *Te Whāriki* (Ministry of Education, 1996) in the mid-1990s, followed by *Kei Tua o te Pae/Assessment for Learning: Early Childhood Exemplars* in 2004 (Carr, 2009; Carr et al., 2015; Ministry of Education, 2004). Early childhood education teachers in Aotearoa New Zealand are required, as part of the national curriculum, to carry out assessment for children's learning (formative assessment) in order to provide programmes which meet the needs of the children who attend their settings (Ministry of Education, 1996). Assessment is crucial in early childhood education as teachers strive to provide high quality programmes for the children they teach. Assessment has become an important tool to aid children in becoming confident and competent learners, a goal of the early childhood curriculum, *Te Whāriki* (Ministry of Education, 1996). This, in turn, enables children to construct their own identities as learners (Carr, 2005; Carr & Lee, 2012; Carr et al., 2002). The use of formative assessment practices rather than summative ones supports children in the development of these essential skills. Referring to Carol Dweck's (2000) work on learning and performance goals, Carr (2001, p. 525) noted:

> When children are oriented towards learning goals, they strive to increase their competence, to understand or master something new. They attempt hard tasks, and persist after failure or setback. When they are oriented towards performance goals they strive to gain favourable judgements or to avoid negative judgements of their competence.

Although assessment is important for children's learning, first and foremost it must be noted that without assessment the effectiveness of programmes cannot be evaluated (Carr & Claxton, 2002). As Carr and Claxton (2002) went on to note, if there is not some form of "systematic tracking of learners, educators cannot know whether their good intentions are being translated into the desired outcomes" (p. 16). Moss and Dahlberg (2008) proposed that sound assessment practices are also an indicator of quality in early childhood education. Research indicates that children who attend high quality

early childhood education settings and are exposed to superior assessment methods such as assessment for learning, are more likely to succeed in formal schooling environments and, in fact, in later life (Gibbs, 2004; Kuamoo, 2008; Nores & Barnett, 2010; Olson, 2002).

Assessment for learning in early childhood education will identify children's dispositions, strengths and interests. Formative assessment practices thus allow teachers to ensure that their programmes are meeting the needs of the children, in particular by focusing on ways of extending their learning. A tool which is particularly useful for this purpose is the Learning Story (further discussed in 2.3).

2.2 Parent and whānau engagement

The importance of parent, whānau and community involvement in early education is not a new concept and is recognised as a component of high quality education (Cankar et al., 2012; Douglass, 2011; Hattie, 2010; Howe & Simmons, 2005). Indeed, as noted by Hopkins (2007, p. 13, cited in Cankar et al., 2012, p. 38) "Nobody educates others, and we do not educate ourselves. We educate each other in a community, in the living environment of this world". In his influential work Bronfenbrenner proposed that if early childhood education was to have an influence on children's future education and adult lives then parents, whānau, and indeed the community must be involved in that education (Bronfenbrenner, 1979, 1988). He considered that for learning to be significant, all those involved in this learning (parents, community and teachers) must have the same goals in mind for the children. This premise has continued to be an issue for the education sector as finding ways to encourage parents and whānau to be involved, and indeed to have similar goals for their children as the education system, is a challenge. As Halgunseth (2009) noted, for many young children the two most important and influential environments are their homes and the early childhood education setting that they attend. This is indeed true, but must also be extended to include other cultural considerations such as

children's experience with Marae[9] here in Aotearoa New Zealand. Therefore it is imperative that parents, families and whānau are invited to be part of their young children's learning. The literature clearly highlights the importance of such engagement by and involvement of parents, families and whānau and the direct relationship between this involvement and children's educational success, particularly for children from a low socio-economic background (Hango, 2007; Siraj-Blatchford, 2010; Waanders et al., 2007). Arndt and McGuire-Schwartz (2008) claimed that involving families in their children's education from the beginning is crucial and that finding comprehensive ways to do this is important. However, clarification about what is meant by involvement, how parents and whānau might contribute to children's learning, and indeed how this is equitable (Cowie & Mitchell, 2015) is needed.

The ways that parents and whānau can engage with their children's learning are many and they vary across the educational sector. For example schools favour reports, parent information evenings and newsletters as ways to include their students' families, alongside informal conversations when possible. In early childhood education parents and whānau are invited to be part of their children's learning journeys through narrative approaches such as Learning Stories and portfolios, family and whānau events, newsletters and regular face to face informal conversations (Cowie & Mitchell, 2015). Although these are genuine attempts to promote parents and whānau as collaborators and contributors (Mitchell & Furness, 2015; Weldin & Tumarkin, 1998/1999) in children's learning, a difficulty remains that developing a truly reciprocal relationship between educational settings and families is an ongoing challenge. It is also important, as Cowie and Mitchell (2015) propose, to ensure that there is fairness and equity in the ways parents and whānau are encouraged to be part of these reciprocal relationships. This is further strengthened in early childhood education by an underlying premise of *Te Whariki* – Whānau Tangata: Family

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[9] A marae is the spiritual and physical home of the Māori people. It is a place where those from a particular iwi (tribe) or hapū (sub-tribe) return to for hui (meetings), marriages, tangi (funerals) and other important events.

and Community (Ministry of Education, 1996) where family and whānau are recognised as partners in children's learning. Specifically, *Te Whāriki* (Ministry of Education, 1996) argues for culturally appropriate ways of communicating and encouragement of participation in the programme by all whānau, parents, extended family, and elders in the community. Furthermore as Duncan, Bowden, and Smith (2007) note, not only can this reciprocal relationship benefit children's learning but it can also increase the support parents and whānau receive from the early childhood education setting. In turn this support enables them to cope better with stress or times of change (Duncan et al., 2007) and become more productive participants in their young children's learning. Clarkin-Phillips and Carr (2012) go on to suggest that by providing increased opportunities for parents and whānau to connect with children's learning that are inviting, available and personalised their agency within the ECE setting can be enhanced. This agency can therefore be supported, and reciprocal relationships strengthened, by parent and whānau access to formative assessment through narrative methods such as Learning Stories contained in portfolios.

Portfolios, in whatever form, can play a part in this involvement as parents and whānau are invited to share and contribute to their children's learning. Through involvement in their children's formative assessment, parents can aid in their children's education; they can become what Mitchell (2003) terms co-educators alongside the teachers in the early childhood education setting. As Whyte (2010) maintained, it is essential for parents and whānau to have a key role in the assessment processes for their children. One of the best ways that portfolios can engage parents in their children's learning is through the two-way communication that can develop between the parents and the teacher (Daniel, 2009). It is unfortunate however that this is difficult to maintain and that the status-quo remains that communication is often one-way (Marsh, 2003). This could be especially important when working with families from a culture different to the predominant culture in the early childhood education setting (Arndt & McGuire-Schwartz, 2008; Halgunseth, 2009; Powell, 1998).   This study, therefore, sought to discover whether parents and whānau were encouraged to

engage in their children's learning through the ways mentioned above, and more importantly whether the introduction of ePortfolios became a catalyst in this engagement – producing a true reciprocal relationship between the ECE setting and home.

In a small action research project carried out in an early childhood education setting, Whyte (2010) investigated ways to involve parents, whānau and children in the assessment for learning process. Inviting parents, whānau, and children to contribute through completing an "initiating parent voice" (Whyte, 2010, p. 22) before the full Learning Story was documented meant that they were involved early in the assessment process. In this method a photo taken early on when the child's interest is noticed is given to the parent or whānau member and they are asked to discuss it with their child and record this discussion. Whyte (2010) suggested that by doing this the 'power' in the assessment situation was transferred to the parent or whānau member for a time which in turn encouraged them to contribute. It also meant that informal conversations that were often missed were recorded. It was through these conversations, Whyte (2010) thought, that the meaningful connections between home and what is being learnt at the early childhood education setting are made. Therefore it is imperative that parents, whānau, and children are involved in the assessment process and by this very involvement they become members of a community of practice[10].

2.3 Learning Stories and their consequences

As Drummond (2012) has noted "A Learning Story is first and foremost a story. The storyteller shares a tale of emergence, speaking to the child, to the child's family, to guests, and to ourselves as observers and educators" (para. 1). Developed by Margaret Carr, Learning Stories were a direct response to the new challenges of assessment which came with the publication of Aotearoa New Zealand's Early Childhood Education Curriculum, *Te Whāriki* (Carr, May, &

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[10] This is further discussed in Chapter Three.

Podmore, 1998; Carr, 2001b; Carr et al., 2002; Carr & Lee, 2012; Ministry of Education, 1996). Practitioners needed to find ways to form the ideas and themes presented in *Te Whāriki* into effective programmes which included worthwhile assessment (Carr et al., 2002). A project undertaken in 1995 by Carr, called the *Project for Assessing Children's Experiences* (Carr et al., 2002), discovered that if a child's learning is firstly recognised by the teacher, then documented by the teacher, teachers would be able to guide the learner in a more meaningful way. From this project the Learning Story Framework was developed. Learning Stories have proved to be particularly useful in providing formative assessment and are now used throughout Aotearoa New Zealand in early childhood education settings (Mitchell, 2008).

Learning Stories identify and build on children's interests and in turn influence their learning dispositions (Carr & Claxton, 2002; Carr et al., 1998; Carr et al., 2002; Hooker, Peters, Bigger, & Bleaken, 2008). Learning dispositions are identified as key learning outcomes in *Te Whāriki*. They are habits, the way children go about their learning. Several dispositions were identified by Carr et al. and were linked to the five strands of *Te Whāriki*. The following table provided by Carr et al. (2002, p. 118) shows these links.

Table 2.0 Links between the strands of Te Whāriki, learning dispositions and actions and behaviours (adapted from Carr et al., 2002, p. 118)

Strands of *Te Whāriki*	Learning Dispositions	Actions and Behaviours
Belonging	(i) *Courage* and *curiosity* to find an interest here	Taking an interest
Wellbeing	(ii) *Trust* that this is a safe place to be involved and *playfulness* that often follows deep involvement	Being Involved
Exploration	(iii) *Perseverance* to tackle and cope with difficulty or uncertainty	Persisting with difficulty, challenge and uncertainty
Communication	(iv) *Confidence* to express ideas or a point of view	Expressing a point of view or feeling
Contribution	(v) *Responsibility* for justice and fairness and the disposition to take another point of view	Taking responsibility

From making these links and identifying dispositions a new assessment process was developed. This new framework comprised the following steps (Carr et al., 2002):

Figure 2.0 The four step assessment process (adapted from Carr et al. 2002)

Describing
- Teachers are focussing on moments of learning in which at least one of the actions or behaviours was seen, in the hope that these actions and behaviours would develop into the learning dispositions described in the table above.

Documenting
- The learning was then documented (this is the start of the learning story). As noted by Drummond (2012) this was for any number of different audiences. In relation to the study at hand it would be for children, teachers, parents, whānau and outside agencies.

Discussing
- The next step of the process was to discuss the learning - this could be with the child, another teacher, a parent or whānau member. This step is important to the parental and whānau engagement that this study is investigating.

Deciding
- Finally the assessment (formal or informal) would show where to next. Children, teacher, parent and whānau engagement is also important in this step.

Through the use of these steps, Learning Stories are able to provide detailed representations of moments of learning as they occur (Pride, 2014). They then inform ongoing learning as teachers (and in some cases, children, parents and whānau) continue to notice, recognise, respond and revisit children's learning (Cowie, 2000), increasing the development of the learning dispositions identified above.

The way in which Learning Stories are presented has changed quickly over the last several years. Carr and Lee (2012, p. 36) note:

> The presentation and *formative* assessment opportunities of Learning Stories have been rapidly transformed by revolutionary changes in information communication technology. In a 1998 video series on assessment, we were all very excited by the affordances of the Polaroid camera: one of the teachers in that video series comments: 'It's just so *Instant*!' A mere five or so years later teachers were responding to the new technological opportunities to write Learning Stories very quickly after the event and to experiment with format and layout.

These changes have meant that Learning Stories have become more attractive to children, parents and whānau as photos are regularly included. How children's formative assessment documentation is presented to children, parents and whānau is an important consideration for this study.

2.4 Portfolios and their consequences

The ways in which formative assessment is presented to children, their parents and whānau could impact on the ways in which they engage with the assessment and subsequently the learning involved (Cohen, 1999; Seitz, 2008; Weldin & Tumarkin, 1998/1999). Traditionally, in Aotearoa New Zealand assessment documentation, such as Learning Stories (Carr, 2001; Carr & Lee, 2012), has been presented in a paper format, and usually contained in a portfolio which Klenowski (2010) defined as "a purposeful collection of process artefacts and products that involves selection of evidence to demonstrate achievement over time and reflection on the process and value of the learning itself" (p. 236). This definition supports the ways that portfolios are used in this country.

Barrett (2007) noted that an educational portfolio will contain work and other artefacts that the learner (and others such as teachers) have collected over time. She suggested that the learner will have reflected on the work contained in the portfolio and the reflection will show that growth has occurred. While this is a nice suggestion, I submit, it is not yet a common enough occurrence in early childhood education. With advances in technology, more services are turning to electronic forms of documentation, such as ePortfolios, to demonstrate and document learning (Barrett & Garrett, 2009; Boardman, 2007; Dooley et al., 2011). Klenowski (2010) further defined ePortfolios as "a digital collection of diverse evidence of an individual's achievements over time involving selection, design, and reflection for a particular purpose and presentation to one or more audiences" (p. 236).

Goldsmith (2007) suggested that educational portfolios (paper-based and ePortfolios) have three main purposes. These are:

1. They provide teachers and learners with a tool to collect documentation over time.
2. Teachers and learners then have the ability to select certain evidence and to organise it into themes.
3. Teachers and learners can add additional items to the portfolio to further enhance it, such as supplementary reflections (pp. 33-34).

Her research investigated the benefits of ePortfolio use in higher education but she maintained that portfolios in whatever format can be valuable learning and teaching tools. A question remains, however. How do children and other adults use portfolios as teaching and learning tools in early childhood education?

2.5 ePortfolios and their consequences

ePortfolios are becoming more and more commonplace in education; this thesis focuses on ePortfolios and their consequences. There is plenty of evidence of the use of ePortfolios in the tertiary education sector (Gao, Coldwell-Neilson, & Goscinski, 2014; Hallam & Creagh, 2010; Meyer & Latham, 2008; Rhodes, 2011; Scott & Kim, 2015; Strudler & Wetzel, 2011-12), where they are used as reflective tools for students, particularly in initial teacher education programmes (Briggs & Jensen, 2013; Shepherd & Skrabut, 2011). It is within this sector that the majority of the literature sits. There is also some evidence of their use in primary and secondary education (Barrett, 2007; Blair & Godsall, 2006; Dorniger & Schrack, 2007; Fahey, Lawrence, & Paratore, 2007; Fox, Britain, & Hall, 2009; Kim & Olaciregui, 2008; Ministry of Education, 2014a, 2014b). However, it appears that very little research has been undertaken on the use of ePortfolios in early childhood education. This is concerning because in the current climate anecdotally ePortfolios are the latest trend.

Some of the literature that is based in the other sectors, though, does provide useful insights into how they may be utilised in early childhood education.

2.5.1 Tertiary (higher education) sector

In the tertiary education sector, for 15 years or so, nationally and internationally, students have been utilising technology to source literature and resources, to upload assignments and to maintain professional portfolios (Gao et

al., 2014; Ministry of Education, 2014a; Scott & Kim, 2015; Zinger & Sinclair, 2014). ePortfolios, have been used more and more frequently in tertiary settings across all levels, undergraduate to post-graduate (Balaban, Divjak, & Mu, 2011; Chambers & Wickersham, 2007; Heinrich, Bhattacharya, & Rayudu, 2007; Hewett, 2004; Lambert & Corrin, 2007; Ledoux & McHenry, 2006). As Fiedler, Mullen, and Finnegan (2009) remarked, it is becoming more reasonable to expect students to utilise ePortfolios as their access to technology has improved and they are increasingly expected to submit assessments electronically. As with most conversations around ePortfolios, however, the discussion which should be included about access was not adequately covered in the literature reviewed.

Goldsmith (2007) described an ePortfolio as a flexible teaching and learning tool which allows both teachers and students to revisit learning and make clearer links to such learning (Chambers & Wickersham, 2007; Joyes, Gray, & Hartnell-Young, 2010; Reynolds & Patton, 2015; Yancey & Hunt, 2009). In an Aotearoa New Zealand context, Heinrich et al. (2007) investigated ePortfolios as a 'life-long learning' tool at Massey University. The authors noted that while an ePortfolio does not change the context or meaningfulness of its paper-based counterpart, there are some advantages to using an ePortfolio. These advantages include the ability to link entries, ease of access and opportunities for contributions which could include "collaboration and feedback" (p. 656). Heinrich et al. (2007) concluded that ePortfolios are a valuable tool for on-going reflection (a key component of life-long learning), that they are valuable to industry regarding whom to employ (Boulton, 2014; Goldsmith, 2007), and as a tool for on-going professional development and as evidence for professional bodies (such as the Education Council of New Zealand).

ePortfolios in tertiary education are a beneficial tool for both academics and students. For academics, ePortfolios allow them to reflect on their teaching and the programme in general (Fitch, Glover-Reed, Peet, & Tolman, 2008). They provide snapshots of each student's learning style so that teaching can be

customised and they can increase student engagement with the programme content (Yancey & Hunt, 2009). ePortfolios can be valuable for accountability and accreditation (Lumsden, 2007) for tertiary teachers and providers. Samardzija and Balaban (2014) also suggest that they can be used to help academics design their career aspirations, and for institutions to support this development. For students, ePortfolios have the benefit of allowing them unlimited storage space (Ledoux & McHenry, 2006; Ntuli, Keengwe, & Kyei-Blankson, 2009), assisting them in becoming reflective practitioners (Chambers & Wickersham, 2007; Ledoux & McHenry, 2006), and as a possible tool for future employment (Boulton, 2014; Goldsmith, 2007; Heinrich et al., 2007).

Ledoux and McHenry (2006), however, have identified some barriers and challenges to implementing ePortfolios in a tertiary setting. They suggest that this can be a costly endeavour so may be difficult for smaller institutions to manage. They also question the ability of students to take their ePortfolios with them after graduation. If they are not able to do so then they will not be able to use them as records of learning for employment or professional body applications as suggested by Heinrich et al. (2007). A further challenge, identified by Chambers and Wickersham (2007), is that some students lack the technological knowledge to be able to interact successfully with ePortfolios. This could also be the case for academics and teachers, particularly those who have never taught online or indeed utilised the portfolio method at all (Goldsmith, 2007). However, Ledoux and McHenry (2006) suggested that this lack of knowledge and confidence could also be seen as beneficial because students and teachers need to increase their technology use and understanding to be competent learners and teachers in the 21st century.

2.5.2 Primary and Secondary Sectors

ePortfolio use is also becoming more common in the primary and secondary sectors of the education field. Fahey et al. (2007) discussed a different way of using ePortfolios. Rather than a means of organising and cataloguing student work, which is how they thought ePortfolios were mainly

used, they suggested that ePortfolios could transform learning by changing the way that students, teachers and parents think about, talk about, and use the contents. Their study, undertaken in 2003, made interesting comparisons between ePortfolio use in a school setting and a university setting. The aim of this study was to find ways to make learning a collaborative venture between the student, their peers and their teacher or professor. They stated "we wanted to change the conversation of the classroom in significant and substantial ways – to make learning an on-going process of collegial inquiry" (p. 469). An ePortfolio platform was chosen as the means through whihc the students would use to share their work with each other and their teacher. Students were required to make their learning 'public' so that it could be viewed by others in their learning community. Fahey et al. (2007) found that the students in both settings thought more deeply about what they wrote, and were more motivated and engaged.

Blair and Godsall (2006) submitted that using ePortfolios in the secondary setting made student learning more collaborative, and that students, teachers and their families could more easily see the progress being made in their learning. Thus researchers in these both secondary and tertiary educational sectors agree that ePortfolios can be tools to foster lifelong learning and enhance employment prospects (Barrett, 2007; Blair & Godsall, 2006; Dorniger & Schrack, 2007; Fahey et al., 2007).

Schools in Aotearoa New Zealand, too, are increasing their use of technology to aid children's learning and some are involved in the Ministry of Education's ePortfolio project where an ePortfolio platform has been made available until at least the end of 2015 (Fox et al., 2009; Ministry of Education, 2014a). Several of these schools have reported the success of the initiative, particularly for students' engagement in their own learning and increased community involvement: "In our school e-learning is part of effective cycles of reflection and assessment involving the wider community" (Ministry of Education, 2014b).

These are important considerations for early childhood education where the danger remains that ePortfolios may replace paper-based portfolios but without sufficient consideration of how children would access these.

2.5.3 Early Childhood Education Sector

There is very little documented evidence of the use of ePortfolios, and the associated benefits or disadvantages of doing so, in the early childhood education sector. After an extensive literature search three studies were found, one in Austria and two in Aotearoa New Zealand.

In Austria, Schallhart and Wieden-Bischof (2010) trialled the use of ePortfolios in a kindergarten classroom. This occured over a two-year period at Maurach Kindergarten, initially with a small group of children in 2006, then including the whole group in 2007 (the exact number of children was not provided in their paper). On a specified day, once a fortnight, termed "ePortfolio day", the children would work with their teacher to add selected artwork to their ePortfolios (by taking a photo of the artwork and uploading it to the ePortfolio). The children would then describe the artwork with audio or written comments. Thus, their ePortfolios became individualised and showed the children's interests. However, the teacher was responsible for defining the topic and direction of the ePortfolio and this varied depending on the age group of the children (Schallhart & Wieden-Bischof, 2010). The children had access to computers, digital cameras, recorders and open source software to add the documentation to their ePortfolios. At the time this study was undertaken parents did not have access to their children's ePortfolios. Instead they were given a CD with a PowerPoint presentation of the contents of the ePortfolio at the end of each year. The kindergarten was investigating how they could give parents access so that they could be come more involved in the ePortfolios (Schallhart & Wieden-Bischof, 2010). Although Schallhart and Wieden-Bischof (2010) discovered that ePortfolios were an exciting prospect to enhance children's educational journeys, they did have some questions for further investigation at the conclusion of their study. They wondered how children's learning and development could be monitored whilst "ensuring the playfulness

of learning" (p. 157), and where ePortfolios in early childhood education might go in the future. They were also concerned about how children's privacy could be assured in the digital world, how teachers could be expected to manage the workload of 20 or more ePortfolios and what support might be available to teachers to enable them to continue using ePortfolios "without disregarding the general strategy or work in kindergarten" (p. 157).

In Aotearoa New Zealand, the use of ePortfolios as an assessment tool in early childhood education was the focus of brief case studies in two ECE settings outlined by the Ministry of Education (Ministry of Education, 2014c). Both of the settings, a state kindergarten and an all day ECE setting, wanted to trial ePortfolios as a tool to engage parents and community in their children's learning. They found that ePortfolios were valuable "as a complement to, not a replacement for, the usual book portfolios" (Ministry of Education, 2014c). Some of the benefits the two settings reported included: children enjoyed the immediate response the ePortfolios allowed; parents and whānau felt "more connected" to the settings; and teachers were able to engage in more of what they felt was "purposeful communication" with parents and whānau (Ministry of Education, 2014c).

Goodman and Cherrington (2015) also wanted to investigate the impact online portfolios had on parent and whānau engagement within early childhood education and also how they could contribute to parent-teacher communication and relationships. The study surveyed 80 ECE services to discover teacher, parent and whānau perspectives and also included case studies of two ECE settings in Aotearoa New Zealand. While the authors found that online portfolios were able to encourage engagement from *some* of the parents and whānau in their study, they acknoweledged that a more longitudenal study would be beneficial to see if there was "a novelty factor at play" (p. 16) due to the fact that the use of online portfolios in ECE was a recent occurrence.

The challenges reported by authors who undertook their research in other sectors are relevant to successful implementation of ePortfolios in an early childhood education setting. Therefore it was important to take these into consideration at the onset of this study. As with Goldsmith's (2007) findings, there could be technological issues – teachers, parents, whānau and children may not feel comfortable, or indeed be able, to use the platform. The time needed to make ePortfolios a worthwhile tool could also have an impact. The biggest perceived barrier in this study, however, was access; parents and whānau may not have access to a computer or device where they are able to easily view the ePortfolios.

2.6 Research questions

From this literature review three research questions have arisen. These questions formed the foundation of the study and were addressed in the subsequent research. Each research question follows with an indication of how it was influenced by the literature and also how the findings may impact on practice and policy in early childhood education, nationally and internationally.

Research Question one: How does the introduction of an ePortfolio programme change teacher's formative assessments?

As identified, through the use of formative assessment, the learning journey and progression can be made visible. Formative assessment can then be used by teachers and others to analyse and plan for improved learning outcomes (Black & Wiliam, 1998a, 1998b; Carr et al., 2015; Clarke et al., 2003; Crooks, 2002; Crooks, 1988; Hattie, 2010). Formative assessment is most valuable when children, parents, whānau and teachers all contribute to it (Bell & Cowie, 2001; Black, 2001; Black et al., 2004; Sadler, 1989, 1998). Therefore, assessment practices need to encourage such participation. Furthermore, formative assessment is strengthened when parents and whānau become part of this relationship (research question two). This question, therefore, sought to discover whether the introduction of ePortfolios changed the ways teachers delivered formative assessment, and who was involved with using and

contributing to it. The findings from this question were intended to inform the educational sector as to what difference an ePortfolio system could make to teachers' formative assessment practices. This in turn was intended to demonstrate whether an ePortfolio system is a useful addition to early childhood education settings.

Research Question two: Does an ePortfolio programme assist parents and whānau in an early childhood education setting to engage with their children's learning? If so, in what ways?

This question was developed from the literature on parent engagement with their children's learning. Benefits for children's learning and development are strengthened when parents, whānau and teachers work closely together with an educational aim in mind (Bronfenbrenner, 1979, 1988; Cankar et al., 2012; Douglass, 2011; Hattie, 2010; Howe & Simmons, 2005). Such collaboration enables the learning opportunities in the home and ECE setting to reinforce each other. Collaboration enables teachers to find out more about and build on the child's interests, relationships and activities at home, and conversely, parents and whānau to understand more about the child's experiences in the ECE setting (Mitchell & Furness, 2015).   Unfortunately it can be hard to sustain engagement in practice (Marsh, 2003).   Finding focused, genuine and equitable ways to involve parents and whānau in their children's learning has been identified as important (Clarkin-Phillips & Carr, 2012; Cowie & Mitchell, 2015; Mitchell & Furness, 2015). Therefore this research question was developed to investigate whether the introduction of an ePortfolio system, which parents had easy access to, would increase the quantity and nature of parental engagement through contributions to assessment. This question was intended to provide a valuable contribution to the field – it would demonstrate the specific affordances of ePortfolios in comparison to paper based portfolios in engaging parents and whānau with their child's learning, and whether opportunities for all families are equitable.

Research Question three: In what ways do children use and contribute to their ePortfolio?

In developing the second research question it became clear that children's use of ePortfolios also needed to be considered. The literature around learning stories and portfolios shows that if children are provided with opportunities to be collaborators (alongside their peers, teachers and other adults) in their own learning then their learning is strengthened (Carr & Claxton, 2002; Carr & Lee, 2012; Carr et al., 2002; Cohen, 1999; Goldsmith, 2007; Seitz, 2008; Weldin & Tumarkin, 1998/1999). As children's engagement with their formative assessment through paper-based portfolios is commonplace and expected in Aotearoa New Zealand (Carr, 2009; Carr et al., 2015; Ministry of Education, 1996, 2004, 2009) it was therefore important that this question was included because if children did not engage with their ePortfolios then their value in an ECE setting would be limited. As with the previous two questions the findings from this question were intended to assist educational settings to discover whether ePortfolios, and indeed paper-based portfolios were a useful artefact in terms of supporting children to become partners in their learning journey.

2.7 Summary and looking forward

Each of the above mentioned factors (formative assessment, parent and whānau engagement, and portfolios) is an important consideration in this study, and as such they are intertwined. Portfolios, either paper-based or online, enable the construction of a picture of a child's learning journey whilst at an early childhood education setting. The voices of those who support and assist children on this learning journey need to be evident within the contents of the portfolio, that is, teachers, parents and whānau, and indeed the children themselves. The formative assessment provided by teachers must include children's strengths and interests and should reflect the aspirations of parents and whānau. By using a portfolio as a learning artefact accessible to children, their parents and whānau, teachers are able to encourage worthwhile engagement in children's learning which in turn may enhance future educational

success and life experiences. Through engagement in and contribution to children's formative assessment, a community of practice in which children's learning is central should develop. The following chapter will discuss the theoretical underpinnings of this thesis.

Chapter Three: Theoretical Framework

3.0 Introduction

The theoretical framework chosen for this study was Communities of Practice (CoP). This chapter will introduce the concept of CoP and link it to the current study. It will go on to make connections between CoP and social learning theory, and the relationship between these concepts with portfolios as artefacts of children's learning. The limitations of a community of practice for the purpose of this research study will also be discussed.

3.1 Communities of Practice as a framework

The notion of the early childhood education setting as the hub of a 'community of practice' provides a useful theoretical framework for this study. The term 'Community of Practice' was introduced in the early 1990s by Jean Lave and Etienne Wenger who were studying situated learning by investigating apprenticeships (Lave & Wenger, 1991; Wenger, 2000, 2011, 2015b; Wenger & Snyder, 2000). From the results of this inquiry Lave and Wenger (1991) concluded that communities of practice are essentially everywhere, and that the members of these communities work together to gain knowledge about a topic so that they can develop it and improve on it in practice (Lave & Wenger, 1991; Tummons, 2012; Wenger, 1998, 2000; Wenger et al., 2002). This in turn enriches the members' ability to do something they care about (Lave & Wenger, 1991; Wenger, 1998, 2000; Wenger et al., 2002).

Liedka (1999) further defined communities of practice as individuals who come together in a group to unite in some form of action or practice. Traditionally based in organisational culture, communities of practice help 'newcomers' to become apprentices of learning and allow 'oldtimers' to be the sharers of their knowledge (Kerno & Mace, 2010; Kerno, 2008; Wenger, 2000). As Nemec and LaMaster (2014) observed, by utilising communities of practice within organisations a "subculture or learning team" (p. 336) which is focussed on informing or improving an area of practice is cultivated. This community of practice will go on to develop its own identity (Lave & Wenger, 1991; Nemec &

LaMaster, 2014; Wenger, 2000; Wenger et al., 2002) through having a shared domain (or mutual engagement), a community (or joint enterprise) and a practice (or repertoire)[11].

Domain or Mutual Engagement

This is the interaction of the group and is where members develop relationships and establish the meaning (aim, goal) of the CoP. Members have a shared commitment to the domain and expertise or interest in it (Lave & Wenger, 1991; Roberts, 2006; Wenger, 1998, 2000, 2011; Wenger et al., 2002).

Community or Joint Enterprise

The community or joint enterprise is established by members having an understanding of each other through developing relationships and pursuing the aims of the CoP (Lave & Wenger, 1991; Roberts, 2006; Wenger, 1998, 2000, 2011; Wenger et al., 2002).

Practice or Repertoire

The practice is the centre of the CoP; members are practitioners and they work together to produce a "shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems – in short a shared practice" (Wenger, 2011, p. 2).

When these three components are present in a group then a community of practice is formed.

There is no specific size to a community of practice; they can be large or small, consist of hundreds of members or just two or three. CoPs don't have to operate in the same place, space or time. There are many examples of online communities of practice whose members don't meet face to face: groups on social media such as Facebook are one example. There is a central feature that distinguishes a community of practice from an interest group however. The group must have a desire to improve an area of practice. So for example, a group who meet regularly to share information, such as a book club, does not

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[11] Wenger uses different terms for these three dimensions in different literature sources.

constitute a community of practice as they are not changing or informing practice. If however, the book club became a group of authors who reviewed each other's writing and gave feedback, then they would meet the definition of a community of practice. So, for the purpose of this study, a potential community of practice could be formed. The members of this CoP may include teachers, parents, whānau and children.

Communities of practice can have benefits for all those involved (Kerno & Mace, 2010; Kerno, 2008; Porter-Kuh, 2012): in this ECE setting the teachers, parents, whānau and most importantly the children. These benefits could also extend to the wider community of extended family, friends, other educational institutions and government departments. Some of these benefits include:

(i)   parents and whānau engaging in their children's learning;

(ii) children being involved in and engaged with their own and other's learning;

(iii) teachers, parents, whānau and children working in partnership on assessment for learning;

(iv) strengthening of teachers' collaborative relationships in regards to formative assessment and quality learning environments;

(v)   fostering of community relationships and their influence on children's learning.

3.2 Social Learning Theory and Sociocultural Theory

The concept of communities of practice is a social learning theory, based on the claim that for humans, learning is a social endeavour (Lave & Wenger, 1991; Tummons, 2012; Wenger, 2000, 2015b; Wenger et al., 2002). The underlying premise of social learning theory is that an individual is not solely responsible for their learning and development (Bandura, 1977). Rather, an individual is influenced by the environment around them, their own knowledge and previous experiences and behaviour – their own and those of others (Bandura, 1977; Hanna, Crittenden, & Crittenden, 2013). This is a view that somewhat resonates with the significant work of Lev Vygotsky who developed

sociocultural theory from his supposition that individuals learn in groups[12] (Anh & Marginson, 2012; Mahn, 1999; McBride, 2011; Tenenberg & Knobelsdorf, 2014; Vygotsky, 1978). In regard to education, sociocultural theory suggests that a child's development and learning is affected by environmental dynamics, meaning that a crucial role is played in this learning and development by teachers, parents, whānau, other children and the community (Kozulin, 2002; Mahn, 1999; Vygotsky, 1978). The links between Vygotsky's Zone of Proximal Development (ZPD) and Lave and Wenger's Communities of Practice are important to make here. Vygotsky believed that there was a gap between what the leaner had already mastered and what they could achieve when provided with the correct support – he termed this gap the Zone of Proximal Development (Evans, 2002; Vygotsky, 1978). In terms of children's learning this means that a child can further their abilities with the help of a more knowledgeable other who could be a child or an adult. This has a direct correlation with Lave and Wenger's Community of Practice theory – which is based on an apprenticeship model, as described above (3.1). The key here for this study is the engagement of parents, whānau and children in learning, and the ways teachers construct and use formative assessment.

Vygotsky argued that artefacts are an important part of learning (Anh & Marginson, 2012; Tenenberg & Knobelsdorf, 2014; Vygotsky, 1978), and that the way we behave as humans is not merely because of the environmental dynamics, our knowledge and experience, as mentioned above, but also because of the influence of objects designed to support practice (such as learning). The type of artefact to promote learning varies – from utensils used to carry out a task, to language, symbols and rituals, to creative endeavours such as art work (Wartofsky, 1979, cited in Anh & Marginson, 2012). In the present study the tangible artefact is the child's portfolio.

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[12] More than one person.

3.2.1 Portfolios as artefacts of learning

The child's portfolio can be regarded as a cultural tool which influences children's learning and adults' engagement with that learning. Vygotsky regarded cultural tools as inherent psychological tools which support children in the extension of their intellectual abilities. The artefacts described above are, in Vygotsky's theory, cultural tools, and when humans engage with these tools they are increasing their own knowledge, and that of others. This assumption meets Vygotsky's definition of an artefact. Vygotsky deemed that an artefact which influences learning would help a person to internalise such learning (Anh & Marginson, 2012; Vygotsky, 1978). Säljö (1999) extended these notions to Information Communication Technology (ICT). He observes "The learning is not only inside the person, but in his or her ability to use a particular set of tools in productive ways and for particular purposes" (Säljö, 1999, p. 147).

Wenger takes this concept further. He takes the abstract artefact, such as a thought, ritual or language as described by Vygotsky and makes it concrete through the concept of reification. This means that by taking the experience that we have and producing objects from this experience we are taking the artefact and giving it "thingness" or reification (Wenger, 1998, p. 58). "Reification shapes our experience. It can do so in very concrete ways. Having a tool to perform an activity changes the nature of that activity" (Wenger, 1998, p. 59).

When the portfolio becomes such a tool to enhance assessment for learning by teachers, children, parents and whānau then it becomes an influence on the child's learning journey. In terms of correlating this concept with the theoretical framework of communities of practice, Wenger (2015b) has noted that communities of practice develop their own "practices, routines, rituals, artifacts [sic], symbols, conventions, stories and histories" (para. 8) important to them. For the setting involved in this research the portfolios are such artefacts – they have meaning to teachers, children, parents and whānau – and through the

process of reification the portfolio becomes the physical embodiment of this meaning.

3.3 Social learning theory and communities of practice

Wenger (2015b) asserts that although the concept of communities of practice has its roots in social learning theory, there are further elements which enable communities of practice to have a "conceptual framework from which to derive a consistent set of general principles and recommendations for understanding and enabling learning" (para. 4). Thus, Wenger notes, the primary focus of communities of practice as a theory of learning is that social participation is fundamental. Furthermore, the concept of social participation is broken down to reflect the elements needed to describe the "process of learning and knowing" (Wenger, 2015b, para. 6). These elements are *learning as doing*, *learning as belonging*, *learning as experience* and *learning as becoming* (Wenger, 2015b). In turn each of these elements links to an aspect of communities of practice: community, practice, meaning and identity; and all link to the central, most important premise that is learning.

Figure 3.0 Elements of a social theory of learning and community of practice (re-formatted from Wenger, 2015b)

In respect to this study, where the central focus of the community of practice is children's learning, and the members of that community of practice are engaging with the learning, the community of practice is growing the children into responsive, reciprocal and knowledgeable learners. This is the desired outcome of the shared practice.

3.4 Establishing a community of practice

In many respects communities of practice establish themselves. They are evident in our everyday lives and we may belong to several at any one time (Lave & Wenger, 1991; Wenger, 1998, 2000, 2011, 2015b; Wenger et al., 2002; Wenger & Snyder, 2000). Wenger (2011) observed that "communities of practice have been around for as long as human beings have learned together" (p. 3), and that our level of involvement in each community of practice that we belong to may differ.

3.4.1 Membership of a community of practice and participation

There are different levels of membership within a community of practice. They vary from those who have been members for some time and as such have detailed knowledge of the practice, to those who are new and could be viewed as 'apprentice members'. There are also members who sit between these two groups and are neither new nor long standing members (Kerno & Mace, 2010; Kerno, 2008; Nemec & LaMaster, 2014; Porter Kuh, 2012). There are also members who sit on the periphery. In the setting involved in this research there are three groups (teachers, parents and whānau, children) that may or may not influence children's learning through engaging with their portfolios (paper-based and online). It is not known whether a community of practice with the central practice of enhancing children's learning through engagement is already in place in regards to paper-based portfolios, or if one will develop or strengthen when the ePortfolios are introduced.

Figure 3.1 Possible communities of practice and engagement with children's learning through portfolios
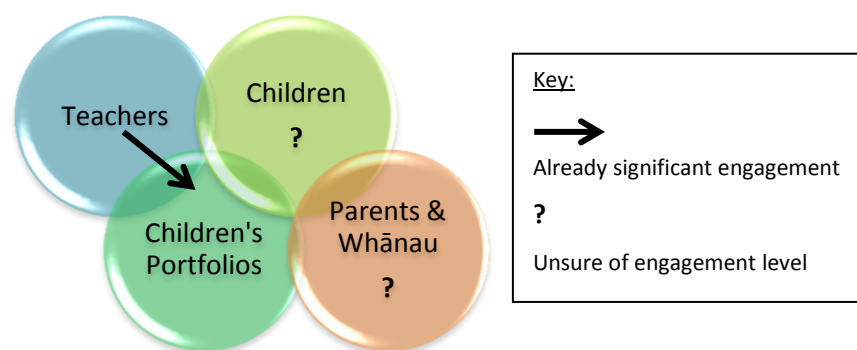
One of the key concepts of a community of practice is participation (Lave & Wenger, 1991; Wenger, 1998, 2000; Wenger et al., 2002). As newcomers participate in the practice of the community they become members of said community. Participation, according to Wenger (1998), means that members of the CoP will act within the CoP and connect to it. It is within the act of participation in the CoP that members develop their identity (an important component of communities of practice, discussed later). Participation in the CoP is what makes the learning meaningful. This clearly links to the idea that our engagement with learning, and indeed our world, is inherently social.

> The meanings of what we do are always social. By "social" I do not refer just to family dinners, company picnics, school dances, and church socials. Even drastic isolation – as in solitary confinement, monastic seclusion, or writing – is given meaning through social participation. The concept of participation is meant to capture this profoundly social character of our experience of life (Wenger, 1998, p. 57).

An essential part of a well-functioning community of practice is to empower participation by making sure that members have time to do so (Nemec & LaMaster, 2014). This is important in this study as one of the main purposes is to find ways to engage parents, whānau and children in the assessment for learning process, and, particularly for parents and whānau, having the time to do this well can be a barrier to such engagement.

3.4.2 Legitimate peripheral participation

Legitimate peripheral participation describes how the newcomer to the community of practice initially interacts with the existing members (Lave &

Wenger, 1991). Within an early childhood education setting, for example, it can be assumed that most members of the community are already active participants (in varying degrees) and have formed an identity in regards to this particular practice (portfolios) (Aitken, 2006).

This means, in the context of this study, something is already assumed about the connections inside this broad community of practice (children, teachers, parents and whānau) with paper-based portfolios (Carr & Lee, 2012; Ministry of Education, 2004), but it was not known what connections would be made with the ePortfolio platform, and indeed how members would engage with it.

As the teachers become more familiar with the ePortfolio platform they become the established members of the community of practice. If the ePortfolio system is used well the children too will become established members very quickly. However, it was envisaged that the parents and whānau would start the ePortfolio journey on the periphery, thus engaging in the community of practice initially with legitimate peripheral participation. How quickly they might move through the community to become fully functioning members engaging with the ePortfolios was one of the uncertainties in this study. Other uncertainties were whether all participants would become involved and/or which participants would choose to become involved in the community of practice.

3.4.2 Modes of belonging

Depending on the level of the involvement of the individual in the community of practice there are different "Modes of belonging" (Wenger, 2000). Modes of belonging link closely to participation and participants' identity within the community of practice. Wenger (1998, 2000) has suggested that there are three modes of belonging within a community of practice: engagement, imagination and alignment. Members of the community of practice may feel or be part of only one mode or up to all three at any time during their membership of the CoP.

Engagement

In this mode members are engaged in the CoP. They engage with each other, do things together and may produce artefacts. In this mode of belonging the members are learning what they can do in the community and how the community will respond to their input (Porter Kuh, 2012; Wenger, 1998, 2000). Within the ECE settings in this study, children, teachers, parents and whānau may be positioned in this mode.

Imagination

Members who are in this mode of belonging not only actively engage with the group but move towards new practices. Within imagination the members are expanding on the central practice. They are discovering new ways of doing, belonging, becoming, and experiencing (Porter Kuh, 2012; Wenger, 1998, 2000). As with engagement, in this study, children, teachers, parents and whānau may be in this mode.

Alignment

Members in this mode will be making sure that their practice is aligned with and has impact on other processes which impact on the community's shared practice. They will be effective beyond their own engagement, finding ways to ensure that their actions within the practice become a two-way process with others outside the CoP to achieve higher goals (Porter Kuh, 2012; Wenger, 1998, 2000). This is the most advanced mode and for the purposes of this study is where teachers may be engaging.

3.4.3 Identity

Wenger (1998) has submitted that "There is a profound connection between identity and practice" (p. 149), with the result that the identities of members of a CoP are moulded as the community develops. In terms of the development of members' identities in this study the following will impact:

(i) The history of the members of the CoP and the history of the practice will each affect the other – that is, the members will bring their experience with them which will in turn impact on their identity within the CoP (newcomer, apprentice etc.), the experiences are lived and shared by the

group. For example, parents or whānau with a background in education may form a different identity to a member who is skilled in building.

(ii) As members move through the levels of the CoP their identity will further be defined by the familiar and unfamiliar; this will shift as their levels of participation increase (or decrease); they will begin to negotiate their identities. In the ECE setting this means that those members who choose to engage with the unfamiliar (ePortfolios) will form a different identity to those members who choose not to engage.

(iii) The learning that is a central part of the CoP will also impact on members' identities – the shared learning history of the CoP and the future learning trajectory will cause identities to further transform. Some of the members of the CoP within the ECE setting may not continue with the learning trajectory. These could be parents and whānau who engage with the ePortfolios versus teachers who engage and learn together to find new ways to use the tool.

(iv) An individual's membership of the CoP may be on multiple levels and will thus interconnect. It is at this nexus that their identity will form. Within the ECE settings some teachers and educators teach and care for their own children. These individuals will have different levels of membership in each of their roles of parent and teacher/educator; it is where these roles interconnect that their identity will be formed.

(v) Finally, the discourses within the CoP will be negotiated through local and global participation. Identity will be defined by the discussions that members are engaged in on a local and global level. For instance, teachers may meet regularly to discuss the practice, but some teachers may do this on a more global scale through connections beyond the early childhood education setting.

It is through these parallels that members' identities become rich and complex, expanding beyond the boundaries of any one CoP.

3.4.4 Leadership

As with any group, a community of practice must have a 'leader'. McDermott (2001) reasoned that this should be a well-respected or long-

standing member of the community. However, I would argue that anyone with the desired leadership traits, as well as a passion and drive for the practice, could undertake this role. In some instances this will be a newcomer, particularly in the education field when a new Principal, Senior Leader or Supervisor is appointed. The leader of the community of practice must be able to develop strong relationships with all the members as they will become the central hub in ensuring the community keeps developing and turning. As Wenger (2000) pointed out, "Communities of practice depend on central leadership, and enabling leaders to play their role is a way to help the community to develop" (p. 231). He went on to suggest that successful CoPs will have various types of leaders such as "thought leaders, networkers, people who document the practice, pioneers etc." (p. 231).

This leadership could be shared between many or the roles may be held by only one or two; how this looks depends on the CoP itself. Nemec and LaMaster (2014) note that the leadership may, and in reality should, change over time as new members grow and develop into these roles. A flourishing CoP is continually evolving and reforming to meet the needs of the community and of the practice.

3.5 Limitations of communities of practice

Like any theoretical framework, there are limitations to the notion of communities of practice. The original designers of the theoretical perspective themselves note limitations, contending that the attributes "that make a community an ideal structure for learning – a shared perspective on a domain, trust, a communal identity, long-standing relationships, an established practice – are the same qualities that can hold it hostage to its history and its achievements" (Wenger et al., 2002, p. 141). Other authors have highlighted further limitations and weaknesses with the communities of practice approach, those most relevant to this study being power, trust and predispositions (Contu & Willmott, 2000, 2003; Marshall & Rollinson, 2004; Mutch, 2003; Roberts, 2006).

Power

Groups of people have power dynamics; a community of practice is no different. The people within the group who have the power are those who are able to control, force or influence an outcome. It is important to recognise and respond to power dynamics within a CoP, particularly as members will have varying levels of knowledge and experience. If the leader (or leaders) of the group do not have the required leadership traits to enable them to distribute such power then those on the periphery may never move beyond this level of membership. This is particularly relevant to this study as teachers are often viewed as those that hold the power within an educational setting. For the community to effectively engage in the practice then power dynamics must be addressed and barriers removed to foster parents, whānau and children's confidence in their ability to contribute and thus become effective members of the CoP.

Trust

As with any relationship, a sense of trust is important within a community of practice and there is clearly defined literature which investigates connections between people (Jackson, 2004; Ladyshewsky, 2006; Robertson, 2005; Slater & Simmons, 2001). Indeed, Wenger et al. (2002) emphasised the importance of trust and suggest that as members of the community of practice get to know each other better trust will develop. However, often it is difficult for trust to be established, particularly in organisations or groups where members are reluctant to share their knowledge, or don't have faith in the decision-making abilities of others. It is therefore important that time is made for this trust to be developed and that opportunities are given to all members of the CoP to engage with the practice and have input. Within the ECE settings this means providing opportunities for parents and whānau to spend time at the setting as well as extra events where they have the opportunity to get to know the teachers and develop relationships. Teachers, too, must make time to talk to parents and whānau to get to know them and their children's important whakapapa (history).

Predispositions

We all come into any group with predispositions – these are our beliefs, values and experiences. The community of practice framework suggests that the meaning (or beliefs and values) are negotiated within the CoP; however, Mutch (2003) argued that such predispositions will have bearing on the meaning of the group. Respect for each others' beliefs, values and experiences is needed by all members in order for a CoP to function effectively. In the context of this study this is about knowing each other well – it means that teachers should have an extensive knowledge about the children and their whānau, and that children and whānau should be given opportunities to get to know the teachers (Gibbs, 2009). By getting to know each other, predispositions are learnt about and are in turn are acknowledged and respected.

While it is important to recognise that there are limitations and weakness of the communities of practice framework it should be acknowledged that with the appropriate leadership and support within a Community of Practice they can be overcome.

3.6 Conclusion

By using Communities of Practice as a theoretical framework for this study I hoped to discover whether such a community was already present or if one developed after the implementation of ePortfolios. If a community of practice was present (or developed), I was curious about how being part of a CoP affects parent, whānau, child and teacher engagement with assessment for learning documentation presented in a portfolio. Furthermore, I was interested in discovering the extent to which these various groups become members and what modes of belonging are shown through this membership (Wenger, 1998, 2000). I suspected that the possible members of the CoP did share a practice in common – that is, the child's learning. Although this may not be the foremost reason that the child is enrolled in an ECE setting, I suggest that parents and whānau still want, and expect, a quality learning environment. Communities of practice is a social learning theory which makes the assumption that individuals do not learn solely on their own. There are other factors, such as environment,

which impact on their learning. This in turn links to Vygotsky's sociocultural theory where artefacts become an important part of a person's learning journey. It is not necessarily about what the artefact is but how it is used. In the context of this study the artefact is the portfolio (paper-based and online), and what is of interest is how the members of the CoP engage with and use this artefact to better the practice – children's learning. Through Wenger's concept of reification members of the CoP are making the artefact a tangible object of learning.

3.7 Summary and looking forward

This chapter has presented Communities of Practice as the theoretical framework for the study. It has discussed the ways in which CoPs develop and has identified that people may be members of many CoPs at any one time. The levels of membership within a CoP have been recognised. These range from legitimate peripheral participation, where members sit on the periphery of the group, to leadership, where members take an active role in maintaining the CoP. How a member's identity within the CoP forms has been discussed, with links made to modes of belonging. Suggestions of where members may fit, in the way of belonging, in the possible CoP in this study have been given. Issues of trust, power and predispositions have been acknowledged and possible solutions should these issues occur have been provided. The following chapter will discuss the research design of this study.

The following chapter will present the research design of this study. It will discuss the methodology used in the study and will present the methods of data collection. It will also introduce the research sample and will acknowledge ethical considerations.

Chapter Four: Research Design and Methodology

4.0 Introduction

This research explores the journey of an early childhood education setting as it transitions between traditional forms of documenting assessment for learning for children to a new online ePortfolio platform. It is concerned with finding ways to effectively engage parents, whānau and children in learning and with how teachers provide relevant and useful formative assessment. This study is accordingly linked with high quality early childhood education practices and Bronfenbrenner's (1979; 1998) notion that for such quality to be achieved then parents, whānau and indeed the community's engagement is essential.

Three questions were posed at the onset of this research and these are included again in this chapter. Through these questions the study aimed to discover what happens when an ECE setting, which previously had been exposed to only one form of presenting documentation of children's' assessment for learning (paper-based portfolios), is challenged by the introduction of a new way of doing this in an online format (ePortfolios). The study also questioned what would happen to engagement with children's learning. Would teachers, parents, whānau and children engage differently with the ePortfolios from the way they did with the paper-based portfolios?

The study sits within qualitative methodology and uses case studies and narrative inquiry. Qualitative methodology is appropriate here as the study is concerned with people and the way they react to an intervention. The use of case studies and narrative inquiry allowed conclusions to be drawn on the participants' knowledge of, experience with, and feelings about paper-based and ePortfolios.

Figure 4.0 How the research processes informed the findings

Narrative inquiry   Case study   Research Findings
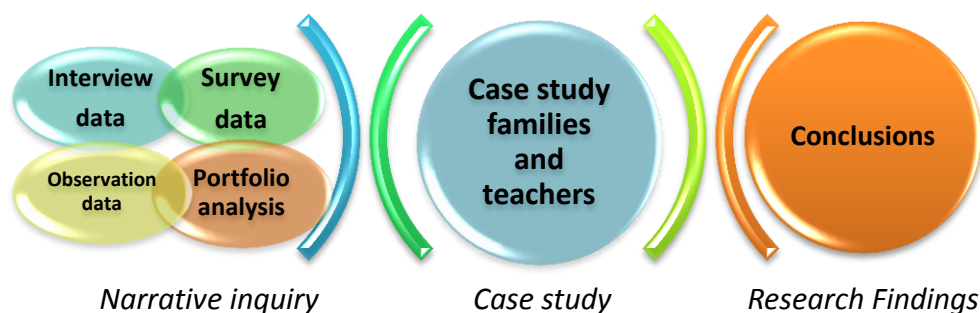
4.1 Research Questions

The following research questions were posed at the onset of this research study:

(i) How does the introduction of an ePortfolio programme change teacher's formative assessments?

(ii) Does an ePortfolio programme assist parents and whānau in an early childhood education setting to engage with their children's learning? If so, in what ways?

(iii) In what ways do children use and contribute to their ePortfolio?

Bogdan and Bilken (2007) maintained that good qualitative research questions should be ambiguous to allow room for researchers to narrow their focus as they collect and analyse data. The above questions have a broad focus as assumptions are not being made about the possible findings of the research.

4.2 Methodology

This research is qualitative in nature and was undertaken as a collective case study (Stake, 1995, 2000), meaning that a question (or questions) had been posed which the study aimed to answer. Several case studies were included – an overall case study of the early childhood education setting and several further case studies within the setting of six families and their key teachers; these case studies were interpreted using narrative inquiry. A mixed methods approach was undertaken and data were triangulated to ensure the reliability and validity of the data (Cohen, Manion, & Morrison, 2011; Mukherji & Albon, 2015; Mustafa, 2011; Stake, 1995, 2000).

Figure 4.1 Triangulation of data
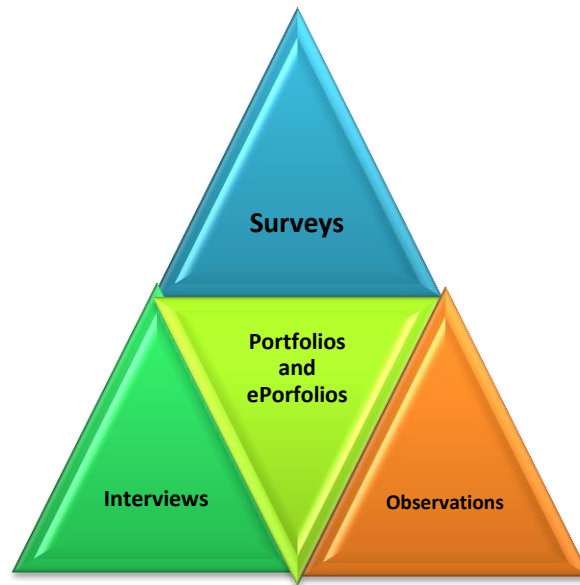
4.2.1 Appropriateness of using qualitative methodology

Denzin and Lincoln (2013) have a useful definition of qualitative methodology. They state:

> Qualitative research is a situated activity that locates the observer in the world. Qualitative research consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level qualitative research involves an interpretive and naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meaning people bring to them (p. 6).

Thus, qualitative methodology is favoured in the social science fields, such as education, as opposed to quantitative methodology, which is used more extensively in scientific research. Qualitative methodology does, however, intersect different disciplines and is used for research into diverse subject matter. For example, as Denzin and Lincoln (2013) remind us, qualitative methodology has also been applied in fields such as psychology, medical science, anthropology and organisational studies. A distinction between qualitative and quantitative methodology is not that one uses numbers and the other does not; rather, as Pinnegar and Daynes (2007), suggested it is the underlying assumptions that differentiate one from the other. Quantitative methodology is

often used to make predictions or solve problems, whereas qualitative methodology is more interested in the journey and coming to an understanding (Byrne, 2001; Hughes, 2010; Mukherji & Albon, 2015; Pinnegar & Daynes, 2007). As Preissle (2013) remarked, qualitative researchers are interested in engaging with the context of the research and from this engagement construct "vivid descriptive accounts of human experience" (p. 524).

Qualitative methodology is particularly useful when carrying out research in early childhood education contexts as there is an emphasis on such research being undertaken in true-to-life, or familiar, settings (Mukherji & Albon, 2015). Mukherji and Albon (2015) suggest that other features of qualitative methodology which fit well with studies embarked on in early childhood education and thus make it a viable methodology for this study are:

(i) The study is generally carried out with a small sample rather than focussing on a large number of participants. In this case the participants were teachers, parents, whānau and children.

(ii) Language (stories), observations and images are the main focus. The data collected in this study were gathered through surveys, interviews, observations and analysis of the paper-based portfolios and ePortfolios.

(iii) "Diversity of viewpoints" (p. 31) is considered. As the participants' stories are told and then examined through narrative inquiry it is expected that different points of view will emerge depending on their diversity of experience and knowledge.

(iv) The research design is based on inductive interpretation. Consequently themes will develop from the data analysis, rather than deductive interpretations being used, where themes are decided on prior to the research being undertaken. In this study it was expected that commonalities and differences would emerge during the data analysis period, and from these themes would be formed.

(v) There is a significant recognition of the role of the researcher and how this may or may not impact on the research participant. The understanding that the researcher is fluid and will change during the project is termed

'reflexivity' (Lincoln, Lynham, & Guba, 2013; Mukherji & Albon, 2015).
Therefore researchers must critically reflect on themselves and the impact
that they may have on the research in the course of the study.

For the reasons outlined above I feel that qualitative methodology and the
associated data collection methods were appropriate for this study.

4.2.2 Challenges to the qualitative research paradigm

Historically, qualitative research methods have been called to task as
weak or "soft" forms of academic endeavour; and the results of such endeavours
were viewed as "unscientific, only exploratory, or subjective" (Denzin & Lincoln,
2013, p. 3). Supporters of positivist methods of research, where quantitative
methodology sits, also declare that researchers who use qualitative methods are
unable to verify their results, or as Denzin and Lincoln (2013) call them "their
truth statements" (p. 4). This is in fact the true beauty of qualitative research
methodology, and what quantitative research lacks – the voice of the
participants, their truths - are heard. The holistic nature of qualitative research
means that human stories, ventures and challenges can be shared, reflected on,
and learnt from. Edwards (2010) cautions researchers that, contrary to the
claims of positivists, qualitative methodology is not an easy option. Like its
quantitative cousin, qualitative research is demanding and as with positivist
methods this approach is meaningful and authentic (Edwards, 2010).

Furthermore, challenges have been made to the methods, such as
interviews, encompassed by qualitative research. Proponents of positivist
methods argue that these methods lack control and therefore the results are an
inaccurate reflection of the studies' population (Cohen et al., 2011). To combat
this qualitative researchers often include a number of methods in their research
design.

> Accordingly, qualitative researchers deploy a wide-range of interconnected
> interpretive practices, hoping to always get a better understanding of the
> subject matter at hand. It is understood, however, that each practice makes
> the world visible in a different way. Hence, there is frequently a commitment
> to using more than one interpretive practice in any study (Denzin & Lincoln,
> 2013).

Hence qualitative research stands strong as a robust inquiry methodology which straddles several disciplines and fields of study.

4.2.3 Narrative inquiry

Story-telling is as old as humankind and therefore narrative inquiry methods have been used in research throughout history, as stories are told and retold (Clandinin & Connelly, 2000; Clandinin & Rosiek, 2007; Hendry, 2007, 2010). Using narrative methods, researchers are able to discover detailed information about a person's journey, be it during the research period or prior, depending on what is being investigated. Narrative inquiry has a place in social science, and therefore educational, research as a robust and meaningful method (Clandinin & Connelly, 2000; Clandinin & Rosiek, 2007; Gibbs, 2009; Hollingsworth & Dybdahl, 2007; Lyle, 2013; Murrihy, 2009). This methodology allows researchers to view the holistic development of participants (in this instance teachers, parents, and children) as their stories are told. Researchers also have access to a diverse range of participant experience as they use narrative inquiry with multiple individuals (Pinnegar & Daynes, 2007).

Narrative inquiry was an appropriate methodology to use in this study as it researches people's experiences. As Connelly and Clandinin (2006) suggested, it is this experience that then becomes the phenomenon which is being studied:

> Framed within this view of experience the focus of narrative inquiry is not only on individuals' experiences but also on the social, cultural, and institutional narratives within which individuals' experiences are constituted, shaped, expressed and enacted. Narrative inquirers study the individual's experience in the world, an experience that is storied both in the living and telling and that can be studied by listening, observing, living alongside another, and writing and interpreting text. (Clandinin & Rosiek, 2007, p.42-43)

To develop the narrative stories described in this study the surveys, interviews, observations and portfolio analysis were used. Through making links across each story the emerging themes would inform the case studies.

Crossing borders

There is a weakness of narrative inquiry which must be at the forefront of the researcher's mind when using this methodology. We all have our own

narrative histories, and therefore come into research with predisposed ideas. Often these will vary from those of the people we are working alongside as participants. "…narrative inquirers need to reconstruct their own narrative of inquiry histories and to be alert to possible tensions between these narrative histories and the narrative research they undertake" (Clandinin & Connelly, 2000, p 46).

It is important that borders (as Clandinin and Rosiek call the boundaries between research paradigms' perimeters, which I think can also be present between researcher and participant) are not crossed, but as they note, the surrounding "borderlands" can be "transversed", or explored in terms of crossing research paradigms, however this can also be true when there are areas where researcher and participant have different experiences. This is where narrative inquiry comes into its own as these different views, beliefs, values and morals can be explored.

In the current research project I, as the researcher, already had predisposed ideas about parental engagement, assessment for learning and teachers' formative assessment practices. It was highly likely that these would differ from those of some of the participants, in particular the parents and whānau, so the borderlands between our views needed to be acknowledged. The necessity for reflexivity on the part of the researcher is apparent here, and I needed to remain adaptable in order to move with the direction of the research findings.

Conversations

Being actively engaged in conversations is an important feature of narrative inquiry. It is through these conversations that narratives begin, are expanded on and come to an end. The conversations in this study sit within a constructivist perspective. In this model the knowledge is co-constructed between the researcher and the participant, although the topic is defined by the researcher. As a result, the relationship between the epistemological perspective (in this case constructivist), issues of relationship, power and identity

within the theoretical framework, and the data collection methods used all inter-link (Hollingsworth & Dybdahl, 2007). In turn, these all directly relate to the quality of data obtained by the conversations. Conversations within this model are co-constructed. The changing identity of the researcher and participants is acknowledged and the types of relationships will therefore vary. The participants will fit within the theoretical framework, in this study communities of practice, and an attempt is made to share power between the researcher and participant. This culminates in semi-structured data collection methods, such as interviews, surveys and observations, and there is opportunity for participants to give feedback.

Figure 4.2 Links between the epistemological perspective, power, identity, relationships and data collection methods
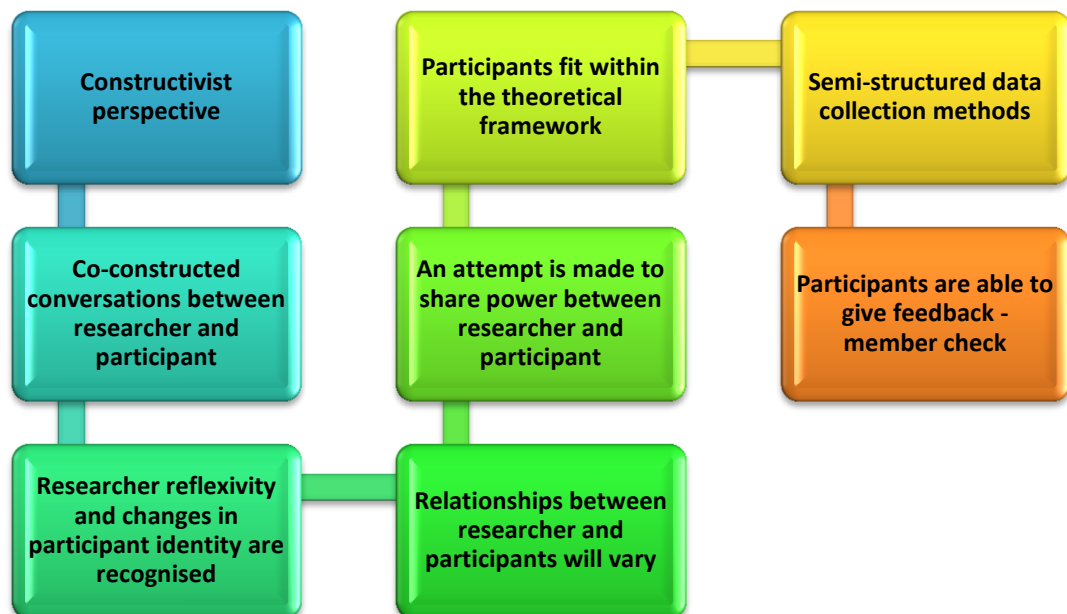
It is from these conversations and relationships that the meaning of the narrative is found when analysing the data.

4.2.4 Case Study

Stake (1995) defined three different forms of case study: intrinsic, instrumental and collective. Instrumental and collective case studies are relevant to this research. Within an instrumental case study researchers are wondering about something: they will have a research question that they want

to answer.   They may want to find out how an intervention works or perhaps how a new programme changes the way something is taught. The case study thus becomes instrumental to reaching beyond just an understanding of why something occurs. Collective case studies are almost the same as instrumental case studies, the only difference being the number of cases involved. For the purpose of this research the case studies were collective. Although each case could also be defined as instrumental, analysis of patterns of findings for all the cases enabled deeper understanding of what changes in assessment practice were commonly experienced, what affordances were enabled, and how these changes were perceived.

Figure 4.3 Identification of the cases used in this study
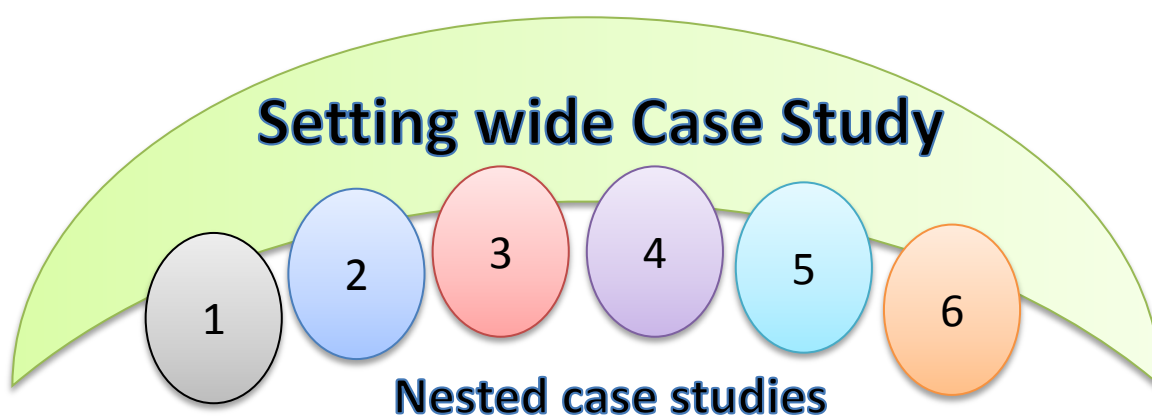
Furthermore, a case study is usually defined as an intensive study of a single group, incident or community (Cronin, 2014; Crowe et al., 2011; Stake, 1995; Taylor, 2013). The case studies in this investigation were the wider ECE setting within which were "nested" six case studies. The setting wide case study included all the teachers, parents and whānau who completed the surveys; whereas the nested cases studies were made up of individual families (parent and child) and their key teacher. By making links between all the case studies, overarching themes were discovered.

The case studies in this research project would identify whether or not communities of practice were present at the onset of the research, and if so whether they changed with the introduction of the ePortfolios. If the initial

findings of the case studies showed that no communities of practice were present prior to the introduction of the ePortfolios, I hoped to determine whether this new tool made a difference and a CoP developed.

I considered that case studies were an effective form of data collection and analysis for use in this study because they would provide rich data documenting the journeys of the participants as they explored changes in the way they engaged with children's assessment for learning.

> Case studies are therefore systematic, based on facts and literal. They are not just descriptive, because they also produce deep analytical meaning. They can question a situation or confront it with pre-existing theories. They can help generate new theories and new questions for future research.
>
> (Vasconcelos, 2010, p. 330)

Thatcher (2006) noted that case study methodology is a major research strategy in modern research projects, particularly in research which falls within the definition of social science. He suggested that case studies have two main purposes, firstly to identify causal relationships and secondly to discover the worldwide view of the participants in the study. Crowe, Cresswell, Robertson, Huby, Avery and Sheikh (2011) further elaborated on this as they see case study methodology as a comprehensive way of exploring issues. They suggested that case study methodology can be used to answer the *how*, *what* and *why* questions posed by researchers. Stake (2000) had argued that case studies are not a choice of methodology but are in fact a choice of what is to be studied. He posed the question "What can be learned from the single case?" (p. 436) and expanded it by suggesting that a case study can be simple or complex. Vasconcelos (2010) further reasoned that by choosing to use case study researchers are not making a methodological choice, it is more about what is being studied. "A case study illustrates a concrete education situation in the present and in its context, therefore contributing to the identification of its specific characteristics" (Vasconcelos, 2010, p. 330).

For the purpose of this research the case studies allowed an intensive investigation into the current use of children's portfolios (by teachers, children,

parents and whānau), the later use of ePortfolios (by teachers, children, parents and whānau) and the changes, if any, in the way they were used during the year of data collection. Undertaking six individual case studies of children, their key teachers and parents and whānau alongside the centre wide case study meant that any commonalities, differences and similarities in the way children, teachers, parents and whānau interacted with the portfolios between age groups were identified.

4.3 Link between the methodology and the theoretical framework

Qualitative methodology and the Communities of Practice theoretical framework are a good fit. Within these frameworks, narrative inquiry and case study methodologies complement each other well. A case study shows a journey, as does narrative inquiry – where stories are told. By including the two together, the voices of the participants became much more powerful. Communities of Practice also describe the journey of a learner as they progress from novice to expert within the CoP. The learners in this study were the children, parents, whānau and teachers as they all contributed to authentic learning journeys. Within the case studies and narrative journey a CoP could develop. Therefore, this theoretical framework was justified for use in conjunction with the methodologies chosen. This connectedness meant that the growth of authentic learning journeys for children, which were enhanced by formative assessment, to which teachers, parents, whānau and children's contributed could be explored.

Figure 4.4 Contributors to an authentic learning journey
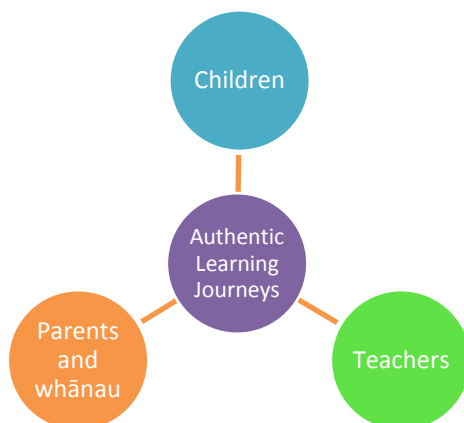
4.4 Research Procedures

The early childhood setting where this research was undertaken was a centre-based education and care setting located in a large city in Aotearoa New Zealand. The setting was community based and was governed by a community trust. The setting was licensed for 45 children, including 12 under-twos.   At the start of the data collection period this setting was still using paper-based portfolios and did not have a connection to the internet. Computers were available for the children but these used educational software only. Any online communications, such as email, went to the services administration offices. At the onset of the research period, data were collected on the use of paper-based portfolios. ePortfolios were then introduced to the setting and further data were collected.

The setting used Educa as the ePortfolio provider. Educa, which is based in Wellington, New Zealand, is a web-based portfolio specifically designed for early childhood education in New Zealand.   It has been built with recommendations from early childhood education teachers, parents and whānau. Educa contains links to the early childhood education curriculum *Te Whāriki* (Ministry of Education, 1996). Teachers are able to access reports on Educa which detail how often parents have viewed the ePortfolios, parental engagement, the types and number of stories written for children and curriculum usage. Educa also has a notice board where settings are able to post news and notices for parents and whānau

Participants

Participants in this study were parents, whānau, children, teachers, the ePortfolio provider and the ECE settings management team. A letter outlining the study and inviting participation was sent to all families and teachers (see Appendix Three).   The ePortfolio provider and the setting's management team were verbally invited to participate in the research. From the initial expression of interest, participants who chose to be part of the study were given a consent form (see Appendix Four). Once these were received, invitations to be part of

the individual case studies were sent to families who met the criteria (see 4.3.4 and Appendix Five).

4.4.1 Participants – parents, whānau and children

At the time of data collection there were 41 families enrolled at the early centre-based childhood setting, with 49 children attending. Thirty-five parents consented to be part of the study. These 35 parents represented 35 families – one parent per family consented. By giving this consent parents were giving permission for data from the following investigative processes to be used:

(i)   An initial, midway and final survey (see Appendix Eight);

(ii)   Two interviews if they were part of the case studies (see Appendix Nine);

(iii)   Observations of children's and families' interactions with portfolios, including photographic evidence;

(iv)   Conversations with children;

(v)   Review and analysis of documentation within portfolios.

Parents and whānau of the 35 families who consented to be part of the study were invited to complete three surveys (further described below), as were the permanent teaching staff and students. From the 35 parents who consented to be part of the study 26 completed the initial survey. The parents and whānau of the six individual case study children were also asked to undertake two semi-structured interviews, as were the key teachers of the case study children. Some conversations were held with children about their paper-based portfolios and ePortfolios. A comparison was made between the paper-based portfolios and ePortfolios of the case study children. The comparison was made in order to review the following:

(i)   What was included in the portfolios;

(ii)   How often stories were written;

(iii)   The number of individual stories and the number of group stories;

(iv)   Parent and whānau contribution;

(v)   Any changes to teachers' formative assessment practices.

Demographics

The children attending the ECE setting during the research period represented several ethnicities, the predominant group being NZ European/Pākeha followed by Māori (statistics obtained from the settings enrolment information).

Table 4.0 Ethnic groups enrolled at the ECE setting by percentage

NZ European/Pākeha	Māori	African	Chinese	European	Other
50%	31%	6%	6%	6%	1%

In the Initial Survey the respondents were asked to identify their occupation. More than 26 occupations were mentioned in the survey data as some respondents included both parents' occupations, even though only one parent was completing the survey.

Table 4.1 Occupations of parents or whānau (data from Initial Survey, coded responses)

Occupation	Number of respondents
Administration	8
Education	6
Government employee	3
Healthcare sector	3
Legal	3
Manager/professional	2
Information communication technology	2
Trades	2
Stay-at-home parent	2
Student	1

The parents and/or whānau who responded to the Initial Survey had been accessing education and care at the ECE setting for a variety of different periods. Some families had been bringing their child/children to the setting for less than a year, others had been coming for one to four years, and some had been using the ECE setting for six to seven years.

Graph 4.0 Length of time at the ECE setting

Length of time

Under 1 year: 6
1 year: 7
2 years: 2
3 years: 3
4 years: 4
5 years: 0
6 years: 2
7 years: 1

■ Length of time
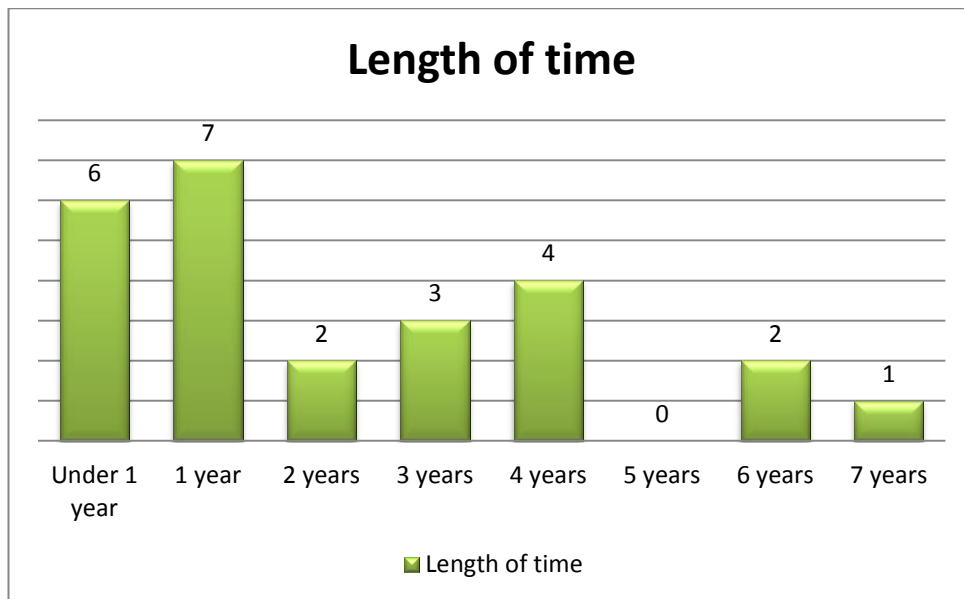
Of the 26 families, 17 had one child currently attending while the remaining nine had two children currently attending. Six of the families had children who had previously attended the ECE setting but were now attending school. The ages of the children attending the setting ranged from under one to five years of age.

Graph 4.1 Ages of children attending the ECE setting at time of Initial Survey

Children's age

Under one: 5
One: 4
Two: 7
Three: 10
Four: 8
Five: 1

■ Children's age
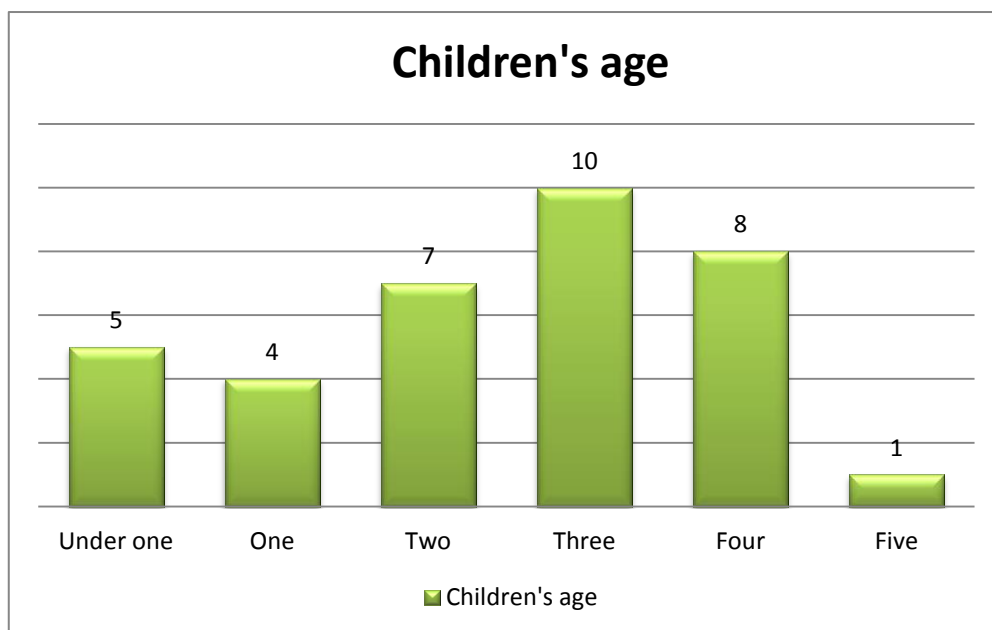
4.4.2 Participants - teachers

The teaching team was made up of 11 permanent staff members, with day to day relievers as necessary. There were also two initial teacher education students attending the ECE setting for field-based placements. Thirteen possible participants were invited to participate in the study. Twelve teachers/students consented to be part of the study, and all 12 responded to the Initial Survey. Consent was given by the teachers for the following data collection processes:

(i)   An initial, midway and final survey (see Appendix Eight);

(ii)   Two interviews if they were key teachers of the case study children (see Appendix Nine);

(iii)   Observations of interactions with portfolios.

Three of the teachers also provided additional data in the way of reflections written at the end of the data collection period.

The participating teachers were asked how long they had been teaching in early childhood education (ECE). Their experience as teachers in early childhood education ranged from over twenty years to under one year.

Table 4.2 Occupations of parents or whānau (data from Initial Survey, coded responses)

Over 20 years	11 to 20 years	6 to 10 years	3 to 5 years	1 to 2 years	> 1 year
1	3	3	2	2	1

The participating teachers were also asked what their highest qualification was. Qualifications ranged from currently in training to a Graduate Diploma of Teaching (ECE).

Table 4.3 Types of qualifications held by teaching staff (data from Initial Survey, checklist)

Diploma of teaching	Bachelor of Teaching	Graduate Diploma of Teaching	Enrolled in an initial teacher education qualification
3	5	2	2

4.4.3 Participants – management and ePortfolio provider

The Director and the Administration Team Leader of the umbrella organisation which ran the ECE setting were invited to be part of the research. The founder of the ePortfolio platform used in the study was also invited to participate. All three consented to be part of the study and were involved in one interview.

4.4.4 Case study selection

This research contained case studies of six families (children and parents) and their key teachers (the teacher assigned to the family in terms of pastoral care and assessment). The case study families were chosen based on the following criteria:

(i) All will have had an older child attend (or still attending) the early childhood education setting. This will give the parents and whānau the opportunity to compare assessment practices over time.

(ii) One of the children in each family would be at the setting for the duration of the study (i.e.: not turning five and going to school).

4.5 Description and analysis of the method(s)

The participants in this research were involved in several data collection methods over the period of data collection. These were surveys, interviews, observations and analysis of the paper-based portfolios and ePortfolios. This section will begin with the data collection timeline and will go on to discuss the methods used.

4.5.1 Data collection timeline

The data in this study was collected from July 2013 to March 2015. The initial round of data collection within the ECE setting was conducted in just over a year from July 2013 to August 2014. Interviews with the ePortfolio provider and the ECE settings management were completed in March 2015.

Table 4.4 Timeline of data collection

Date	Event	Focus	Tool used
July 2013	Initial Survey -parents and whānau - teachers	Paper-based portfolios	Survey Monkey or paper-based
July 2013	Interviews - case study families and teachers	Paper-based portfolios	
February 2014	Midway Survey -parents and whānau - teachers	Initial impact of ePortfolios	Survey Monkey or paper-based
August 2014	Final Survey -parents and whānau - teachers	Changes to contribution and assessment	Survey Monkey or paper-based
August 2014	Interviews - case study families and teachers	Changes to contribution and assessment	
March 2015	Interviews - Management	Journey from paper-based to ePortfolios	
March 2015	Interview - ePortfolio provider	Rationale for developing the platform	

4.5.2 Methods

Surveys

The survey is widely used as a research method across many disciplines, such as education, social sciences, business and sociology (Cohen et al., 2011; Mukherji & Albon, 2015; Zhang, 2000). Using surveys enables data to be gathered at particular points in time meaning that the nature of what was currently occurring can be documented (Cohen et al., 2011). Surveys are useful as they are able to ascertain information on many variables. These include attitudes, beliefs, experiences, opinions and demographic information (Wiersma, 1995). A survey is also a familiar tool. As Wiersma (1995) noted, most adults will have participated in a survey sometime during their life. As this study collected information over time, and is therefore longitudinal, surveys at specific points during the duration of the study collected information regarding participants' changing perspectives of and experience with portfolios.

The participants (adults) in this research undertook three surveys over the data collection period. An Initial Survey was undertaken at the beginning of the research period and could be completed in either online or paper-based format. This survey explored the use of and engagement with the paper-based portfolio system already in place at the early childhood education setting (see Appendix Eight for questions).

A Midway Survey was undertaken six months after the introduction of the ePortfolio system. This survey explored the adult participants' use of and engagement with the ePortfolios to date. It too, was offered in paper-based and online formats (see Appendix Eight for questions).

The Final Survey was undertaken near the conclusion of the data collection phase. It investigated which system the participants preferred and why. As with the previous two surveys, it was completed by the adult participants and was offered in online and paper-based formats (see Appendix Eight for questions).

Each survey in this study contributed to the overall collective case study of the ECE setting. The surveys also provided insight and contributions to some of the themes that were emerging in the six individual case studies which were nested beneath. The way that the surveys were designed with some open-ended questions (see Appendix Eight) meant that the respondents were able to provide rich and detailed descriptions of their experiences – this form of survey links to the narrative inquiry methodology used, and therefore contributed to the story being told.

Semi-structured Interviews

In fields where qualitative research practices take place, such as education, where this study is based, the semi-structured interview is a valid and important data collection method (Cohen et al., 2011; Gudmundsdottir, 1996; Mukherji & Albon, 2015). Gudmundsdottir (1996) saw interviews as

conversations from which rich and meaningful data can be extracted. Semi-structured interviews, with portfolios and ePortfolios as props, were used so that the researcher and participant could engage in a narrative conversation. This links to narrative inquiry where participants tell their stories. For the purpose of this research, the stories told in the interviews will show the participants' experience with and perspectives about portfolios – paper-based and online.

The adult participants who were part of the six individual case studies were interviewed twice. These participants were parents, whānau and teachers. The children who were also part of the case studies were not interviewed in a formal manner as some were pre-verbal; but some of these children were involved in conversations which have been included in the data set. However their stories were frequently shared by their parents and teachers during the interviews. The Initial Interviews explored the current portfolio use in more detail. As mentioned above, these portfolios were used as props to inform and support the discussion. This allowed both the researcher and the participant to take the lead in the direction of the interview and distributed the power in the relationship (Cohen et al., 2011; Hollingsworth & Dybdahl, 2007; Mukherji & Albon, 2015). The same participants were interviewed again near the conclusion of the data collection phase. As with the Initial Interviews, the Final Interviews were semi-structured in nature and used the new ePortfolio, alongside the paper-based portfolio, as props to encourage discussion and conversation (see Appendix Nine for questions). The interviews were digitally recorded and transcribed, and were sent to the participants for member checking.

The data from the interviews was analysed and used to inform the case studies and the stories being told by the participants through narrative inquiry. The questions used in the interviews (see Appendix Nine) were framed in ways that would elicit stories. They became more like conversations that could in turn take the reader through a detailed, descriptive and contextualised journey.

Observations

A number of observations of children interacting and engaging with their portfolios (both paper-based and online) were undertaken during the data collection period in the ECE setting. By observing the children actually working with their portfolios, "live" data were able to be collected from a situation which was not unnatural to them (Cohen et al., 2011; Mukherji & Albon, 2015). Observations of children are commonplace in education so the children in this setting were used to being observed by adults. The observations were taken whenever they children interacted with their portfolios or ePortfolios when the researcher was present. Therefore they were not out of the ordinary happenings but were snapshots of what regularly occurred in the setting. By undertaking observations teachers and researchers are able to make sense of behavioural issues and children's development. Observations are also useful to discover the effectiveness of practices used in an educational context (Malderez, 2003). For the purpose of this research, observations helped establish how the children used their portfolios. They also showed how adults interacted with the portfolios and who initiated those interactions. These observations were recorded as both running records and anecdotal observations, and are descriptive accounts of what was observed. The analysis and descriptions provided with the observations helped to show the reader the context in which they were recorded. Photos were taken to support the observations, if children were in these photos whose parents had not given consent for observations then their features were disguised.

The observations were included as data for the overarching case study of the ECE setting and added explanation of how children and adults engaged with paper-based portfolios initially and later ePortfolios – although this was definitely in a fledgling stage and only just developing towards the end of the data collection period.

Analysis of the portfolios

The portfolios themselves are rich sources of data. Both the paper-based and the ePortfolios of the individual case study children were analysed in the ECE setting. The following themes were examined:

(i)   The nature of the assessments. Of particular interest were assessments which could be described as formative assessment, as discussed in the literature review;

(ii)   The frequency and nature of the contributions;

(iii)   Who the contributions were made by;

(iv)   Links to learning which were identified by the contributors.

These themes were coded so that when analysing the data a clear picture of the frequency of contributions, the type of contributions and who the contributors were was formed. Examples of the documentation contained in the paper-based portfolios and ePortfolios are provided throughout the findings chapters.

The portfolio analysis added context to the individual case studies. Through including the above data sets, any changes to formative assessment, frequency, nature of the contributions and who was contributing could be established. This data could then be analysed alongside the changes identified by the narrative stories being described in the case studies. This analysis enabled a deeper understanding of changes linked to specific educational practices, participant engagement and use of resources.

4.6 Analysing the data

When embarking on the analysis of the data obtained from the surveys, interviews, observations and portfolios, it was important to ensure that the analysis tools were fit for purpose (Burnard, Gill, Stewart, Treasure, & Chadwick, 2008; Cohen et al., 2011; LeCompte, 2000). For the purpose of this study the analysis of the data sought to:

(i) Generate common themes;

(ii) Describe what was occurring;

(iii) Provide an interpretation of the ways in which the participants were engaging with the portfolios;

(iv) Discover commonalities, differences and similarities between the two different forms of portfolios and the participants' engagement with them.

In the first instance the data were analysed to find commonly occurring themes. From this, sections of text from the surveys, interviews and observations which had meaning to the research questions were identified; these could be sentences, paragraphs or even just one word (Mukherji & Albon, 2015). These sections of text were then coded by category names, which were established as pre-existing categories (identified prior to the data analysis) and emerging themes. For example categories were things like frequency of engagement, level of contribution, type of contribution, changes in contribution and so forth. An important category for consideration was linking the text to the theoretical framework – communities of practice (Wenger, 1998, 2000; Wenger et al., 2002). When were the participants engaging with the portfolios and how? Was there a change to the way they engaged when the ePortfolios are introduced? Were aspects of legitimate peripheral participation evident (Lave & Wenger, 1991)? Also of particular interest in assigning categories for analysis was the way in which assessments were carried out. Was there a change in the ways teachers carried out formative assessments using the two different forms of documentation? Did parents and whānau contribute different types of assessment depending on which type of portfolio they were contributing to? As the data were analysed it was important to record reflections on an ongoing basis (Burnard et al., 2008; Cohen et al., 2011). These reflections provided a secondary form of data and were significant when looking for commonalities, differences and similarities in the way participants engaged with paper-based portfolios and ePortfolios.

When analysing the interviews and surveys alongside the analysis of the observations I looked to see if the responses given in the interviews and surveys corresponded with the behaviour witnessed in the observations. This enabled me to gauge whether participants interacted with the portfolios in ways different to how they perceived that they interacted with the documentation. For

example, parents and whānau might not realise the extent to which they engaged with the portfolios or they might in fact overestimate the time that they spent doing this.

With regard to the individual case studies I was able to compare in more detail what happened for these particular children, their parents and whānau and their key teachers both simultaneously and over time, alongside the broader case study involving the whole setting. This enabled me to revisit themes that emerged during the initial data gathering phase (Initial Interviews, Initial Survey, observations and review of paper-based portfolios) and during the final data gathering phase (Final Interview, Midway and Final Surveys, observations and review of ePortfolios).

4.6.1 Trustworthiness of data analysis

It is essential in any study to acknowledge that the researcher sets the agenda (Cohen et al., 2011; Hollingsworth & Dybdahl, 2007). They bring with them their own preconceptions and attitudes about what is to be studied, in this case assessment for learning practices (including teachers' formative assessment), documentation through paper-based portfolios and ePortfolios, and engagement in learning by parents, whānau and children. Therefore it is important to establish trustworthiness when analysing the data. The researcher can be seen as an instrument in the research process (Morrow, 2005; Poggenpoel & Myburgh, 2003) and it is because of this that issues of trustworthiness can arise. It is imperative that the researcher recognises this and acts accordingly. In this study, to develop trustworthiness during data analysis I utilised triangulation by using several data collection methods, participants were able to member check the transcripts of their interviews, and as this was a PhD research project I regularly discussed the research findings with my supervisors and advisors to ensure validity and reliability.

4.6.2 Abduction

Abduction or abductive reasoning is helpful to assist researchers who are using a qualitative methodology, such as case study and narrative inquiry in this

investigation, "to be able to make new discoveries in a logically and methodologically ordered way" (Reichertz, 2004, p. 300). By using abduction, researchers are able to make inferences and are therefore, as Lipscomb (2012) notes, able to make conclusions based on logic from what data they have. It was useful to keep this process in mind when analysing the data in this study, particularly as the voices of the children were not always clear – but could be defined and articulated from other sources of data. It is also useful to think about abductive reasoning when discussing children's learning. It was not possible to 'prove' that learning had taken place. However, evidence was found through analysis of portfolios over time, of changes in formative assessment practices and parent and whānau engagement, which were documented in the portfolios, and referred to in interviews and surveys, which could demonstrate changes to children's learning. In the current study it is appropriate to assume, then, that learning had occurred through the evidence produced from the surveys, interviews, observations and portfolio analysis.

4.7 Ethical considerations

Prior to this research being undertaken an application for ethical approval was made to the Faculty of Education Research Ethics Committee at the University of Waikato and was accepted. An addition to this, further ethical approval was requested after the data collection period was started as I wanted to include observations as a data collection method. This request was approved. The following ethical issues were considered.

Access to participants

I had an already established relationship with the early childhood education setting as I was previously employed by the umbrella organisation of the ECE setting as a Home-based Childcare Co-ordinator. As the home-based offices are located next door to the ECE setting I was familiar with the layout and teaching philosophy of the setting. With regard to ethics this meant that I already knew most of the teachers at the setting well so there was no need to spend time building trusting relationships between researcher and participants.

Informed consent

The participants were asked to sign a consent form (see Appendix Four). For the children this consent was given by their parents or caregivers. When undertaking conversations with the children I verbally invited them to participate, and they were able to choose whether they wanted to take part or not. I explained to those who did want to talk to me that I would be recording the conversation and showed them the device I would be using. They were able to "have a go" with the recording device prior to me recording the conversations about the portfolios. The children were then invited to listen to the conversations if they wanted to.

Confidentiality

To protect the participants against possible harm, the participants were informed of their right to anonymity. Participants were initially asked to choose a pseudonym for themselves, but this proved problematic for subsequent surveys as some had forgotten what name they had chosen. A list of possible pseudonyms was then provided to the participants and from the responses I was able to match responses for the three surveys. I then gave the respondents a new pseudonym. These pseudonyms would replace the real names of the participants in the thesis and any associated publications. All the information and materials produced in the course of this research were treated in a manner that respected the privacy rights of the participants.

The teaching team at the setting included one male participant. To protect his identity I have referred to all of the teachers as "she".

The digital recordings of interviews were transcribed by a transcriber who was contracted to my workplace, Wintec. This person signed a confidentiality agreement.

Participants were invited to check their transcripts and from this were able to suggest areas for possible omission and/or amendment if they wanted to. No changes or additions were made to the interview transcripts.

Potential harm to participants

After receiving information about the project, potential participants were asked to submit an expression of interest indicating whether they would like to be part of the research project. This eliminated any potential harm to potential participants who did not want to be part of the research, as they were not coerced to participate.

Participants were encouraged to be open and to express all their thoughts, positive and negative. All of their input was valued and confidential. If a participant made a negative comment they were assured that it would not be disclosed to the management and employees of the early childhood education setting or its umbrella organisation. The raw data were viewed only by the researcher. Management of the organisation would only see any outputs from the research, such as the completed thesis, journal publications and conference presentations.

Participants were made aware that if they had any concerns that they felt could not be addressed by me, they could raise such concerns with my supervisors. None were received.

Participants' right to decline to participate and right to withdraw

All parents, whānau and staff of the early childhood education setting were invited to participate in the research project by letter (see Appendix Three). There was no expectation that they participate and they were therefore able to decline involvement. Participants had the right to withdraw from the study up until the end of the data collection phase, being the 30th June 2014. Throughout the project they had the opportunity to amend or withdraw any information they provided, through access to the transcribed interviews. The analysis was ongoing, so once the participants gave approval for data to be used these data became part of the project, even if participants later withdrew. Should participants wish to withdraw they were asked to discuss this with me, and then put their withdrawal in writing. No participants formally withdrew during the data collection period.

Conflicts of interest

The early childhood education setting had a professional relationship with The Waikato Institute of Technology (Wintec), which was my employer, because students undertaking their Bachelor of Teaching (ECE) complete their practicum or teaching experience there. Therefore a potential conflict of interest could arise from this relationship. As I was regularly observing within the setting for my research it could have been possible that I might witness "bad practice" which could damage this relationship. As my relationship with the supervisor was very strong, and because I knew the teaching team well, I did not expect such a situation to arise.

Regarding student placements, a conflict of interest could arise if I were a Visiting Lecturer for any students completing their practicum or teaching experience at the setting during the data collection period. This is because, as with any initial teacher education provider, sometimes students do not perform well on teaching placements. If a student I was visiting failed or made a complaint against the setting this could have a negative impact on my relationships with the teaching team and management. Accordingly, for the duration of the research I ensured that I was not allocated any students to visit at the ECE setting.

I had previously worked for the umbrella organisation for the early childhood education setting as a Home-based Childcare Co-ordinator, but had not worked at this early childhood education setting.

Procedure for resolution of disputes

Participants were able to contact my supervisors for assistance in resolving disputes. The supervisors' contact details were provided on the information sheet. No disputes arose.

Cultural and Social considerations

During the research project I acted with sensitivity to any cultural or social issues which arose, as part of my normal practice. Wintec's School of Education has a Pūkenga Āwhina, Rose Marsters, who provides pastoral care for

students and support for staff. She agreed to support me in relation to any cultural issues which might arise. No such issues occured during the research project.

4.8 Summary and looking forward

This chapter has established a case for the use of qualitative methodology, in particular narrative inquiry and case studies, in this study. Both these methodologies are relevant to studies undertaken in education. These methodologies would reveal any changes to adult engagement with portfolios and to teachers' formative assessment practices over time. The methods by which the data were collected were also introduced in this chapter: surveys, interviews, observations and analysis of portfolios. These methods allowed for a significant amount of relevant data to be collected for analysis. These data were then analysed to provide detailed evidence of changes to engagement and formative assessment practices resulting from the introduction and use of ePortfolios. A discussion on the usefulness of abduction when analysing the data was also included here.

Ethical considerations were discussed within this chapter. There were possible conflicts of interest which could have arisen through my already established relationships with the service because of my employment. Although there was the potential for ethical dilemmas to arise, none occurred.

The following chapter will explore the initial findings of the setting wide case study. It will include data from the Initial Surveys (including relevant data from the Midway Survey where some clarification questions were asked), observations and examples from the paper-based portfolios.

Chapter Five: Paper-based Portfolios – The start of the journey

5.0 Introduction

At the onset of this research, two Initial Surveys were carried out with the participants, one for the teachers and one for the parents and/or whānau. A Midway Survey was carried out half way through the year of data collection. This was also administered to teachers and parents/ whānau. During this early research period, observations of children interacting with their paper-based portfolios were also undertaken. This chapter will present the findings of these surveys and observations. It will also include examples of the formative assessment documentation contained in the nested case study of children's paper-based portfolios, and an analysis of these.

5.1 Teachers' survey responses

The teachers were asked a series of questions in the Initial Survey relating to their experience with, and knowledge of, paper-based portfolios. Some further clarification was needed around some of the responses in the Initial Survey. Follow-up questions were therefore asked in the Midway Survey, and the responses to these are included in this section.

5.1.2 Teachers' contributions to the paper-based portfolios

When asked if contributing to the paper-based portfolios was an expectation of their job, eleven of the teachers stated that it was, and the other respondent noted that it wasn't part of her job to do so. All the teachers who did contribute said they did so regularly, but this appeared to mean different things to different teachers. Most teachers (8) commented that they contributed to the portfolios on a weekly basis, one noted that she contributed fortnightly and one made no contributions at all. The other two teachers did not respond to this question. Sandra[13] (teacher, Initial Survey, July, 2013) said: "Contribution happens all the time, but also in more intensive blocks during scheduled teacher

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[13] All names have been changed to protect the anonymity of the participants.

release or non-contact time". One respondent stated that she only contributed "when time allows me to write stories" (Katrina, teacher, Initial Survey, July, 2013). Non-contact time is provided on a weekly basis in this setting. Teachers are allocated two hours each per week, and this was usually taken as a single block. They used this time to add to children's portfolios, complete aspects of teaching registration or undertake other planning tasks such as organising trips or visits.

Of the eleven teachers who were expected to contribute to portfolios, eight were responsible for a number of portfolios in their role as key teacher. This ranged from four to ten children's portfolios each. The largest part of this responsibility was to make sure that the portfolio was up to date (6/8 key teachers). One teacher commented:

> I am key teacher to eight children and I am responsible for making sure Learning Stories are going into their portfolios (at least one a month), however we write for all the children as it gives multiple perspectives. If children don't have stories then we put it out there to all teachers to be aware of and to try and capture something (Eilish, teacher, Initial Survey, July 2013).

This was further supported by Marie who stated "I like to look through my own key children's portfolios to see if they are current…" (Marie, teacher, Initial Survey, July, 2013).

Teachers also identified several other aspects of the responsibility of monitoring portfolios as a key teacher. As noted in Marie's comment above, the portfolio is used to follow what their key children were doing throughout the setting. Sandra added "I have a responsibility to oversee and advocate for documentation, for my key children's portfolios" (Sandra, teacher, Initial Survey, July, 2013).

Another key role of the portfolio in this ECE setting was its use as a tool for assessing learning and development for the child. Waimarama (teacher, Initial Survey, July, 2013) noted that one way she did this was to bring the portfolio to regular staff meetings. By sharing the portfolios of her key children

she suggested that the teaching team gained more understanding of the child's current learning alongside their strengths and interest. She stated: "In a sense we call this 'being an advocate' for that child within our learning/planning programme" (Waimarama, teacher, Initial Survey, July, 2013). The teachers in this setting had monthly team meetings where information regarding children's assessment for learning was shared. They also had a feedback wall where they could provide feedback to their colleagues about Learning Stories they had written before they went into the child's portfolio.

Furthermore, the teachers noted the importance of the portfolios in documenting the child's learning journey at the ECE setting. This, they suggested, must include all types of documentation. Some of these noted were child's voice, teacher's voice, parent and whānau voice, artwork and photos. However, when analysing the paper-based portfolios it became evident that many of the important components identified by the teachers as necessary to show a complete learning journey, were not included. In particular the child's voice and parent and whānau contributions were largely absent in the paper-based portfolios. Nevertheless, the teachers aspired to the goal of developing strategies for engaging children, parents and whānau in learning by means of contributions to the portfolios. Waimarama summed up the aspirations of the teachers by stating "Overall it is my responsibility to ensure that there are rich and accurate contributions from various sources including child, whānau, [and] teachers that reflect the child's learning journey over time" (Waimarama, teacher, Initial Survey, July, 2013). An example of what was contained in one child's portfolio from when she started at the setting until ePortfolios were introduced is included below.

Figure 5.0 Examples of documentation contained in the paper-based portfolio – one child's journey

Takeaways

Tamati: Six children   Date: November 2012   Kaiako:

Children catching fresh fish and cooking fish at takeaways…………
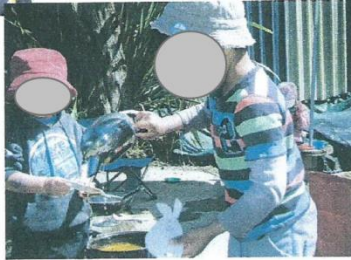
91-13
"a dog"

[ ], I like the way you are using paint to explore your ideas. Today, you painted a dog ~ I like the legs

A painting by [ ]

Date: March 2013
Teacher: [ ]

I walked past the paint easel today and stopped to watch [ ] deeply engaged in the creative process. Without hesitation I took this photograph, without interrupting to ask any questions. I wondered is this a new interest for [ ]?

This example shows a snapshot of what was included in Milly's portfolio from when she started at the ECE setting in November 2012.   In 2012, from November until December, she had 2 Learning Stories written for her and one group photo montage. A piece of artwork was also added in 2012 and this had an annotated comment from a teacher. From January 2013 to June 2013, prior to the introduction of ePortfolios, six Learning Stories and one piece of artwork were added. No child's voice or parent and whānau contributions were made to the paper-based portfolio.

5.1.3 Teachers' thoughts about contributing to paper-based portfolios

The teachers' were asked what they thought about contributing to the children's paper-based portfolios. The majority of the responses were positive, with only four negative responses. The teachers responses have been grouped into five categories.

Table 5.0 How teachers felt about contributing to paper-based portfolios (data from Initial Survey, coded responses)

Teacher	Felt it was an important part of children's development and learning	Evoked positive feelings (excited, enjoyable, passionate)	Empowered teacher growth and development	A valuable tool for assessment	Evoked negative feelings (not enough time, too many, still learning)
Stephanie	✓	✓			
Katrina	✓		✓		
Robin	✓	✓			
Erica	✓	✓	✓	✓	
Waimarama	✓	✓			✓
Georgina	✓	✓			✓
Leslie	✓		✓		
Sandra	✓	✓	✓		
Eilish	✓	✓		✓	
Marie	✓		✓		
Joanne	✓	✓			
Fadimo					✓
Total	11	8	5	3	3

Although there were some negative feelings about contributing to the paper-based portfolios, these comments were always complemented with a positive feeling. For example Waimarama wrote "The more children you are

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responsible for the more difficult it is. But overall I feel good about this aspect" (Waimarama, teacher, Initial Survey, July, 2013). Leslie recorded: "Love it, spend probably too much time at home [working on portfolios], but it is very much who I am as a teacher – most rewarding" (Leslie, teacher, Initial Survey, July, 2013). When asserting how she felt about contributing to paper-based portfolios Eilish stated:

> Confident, excited, passionate, I value portfolios as it is the story book about children's time at [the ECE setting] and in their early years. It captures moments of time for them and will hopefully be treasured as it shares who they are (dispositional ways of learning) (Eilish, teacher, Initial Survey, July, 2013).

5.1.4 What is contributed?

The teachers identified several different ways that they contributed to children's paper-based portfolios. The majority of the contributions to the portfolios were made by the teachers. Previously teachers had said that they felt that the inclusion of the child's voice and parent and whānau contributions were essential. However, very few stated that they actively pursued having these in the portfolios. Only two respondents noted the importance of making links to theory or literature. This is significant as Learning Stories are based on theory and the development of children's learning dispositions.

Table 5.1 Contributions made by teachers to the children's paper-based portfolios (data from Initial Survey, coded responses)

Teacher	Written by teacher (learning story, learning/teaching moment, reflections)	Photos	Art work	Child's Voice	Parents' and whānau contribution	Links to theory/literature
Stephanie	✔					
Katrina	✔	✔				
Robin	✔	✔				
Erica	✔			✔		✔
Waimarama	✔	✔	✔		✔	✔
Georgina	✔		✔			
Leslie	✔			✔		
Sandra	✔					
Eilish	✔	✔	✔	✔		
Marie	✔		✔			
Joanne	✔	✔	✔			
Fadimo	✔	✔				
Total	**12**	**6**	**5**	**3**	**1**	**2**

All of the teachers who responded to the survey included Learning Stories as one of the things they regularly contributed to the children's portfolios. Alongside Learning Stories, learning moments and teachable moments were also noted as significant. Learning moments and teaching moments differ from the traditional learning story, but can be used to develop or support a Learning Story. The teachers in this ECE setting described them as occurring when an unplanned or unexpected learning opportunity arises and the teachers are present to notice this learning opportunity, thus supporting the child to learn from the event. Joanne described learning/teaching moments as:

> A moment of learning that is recognised as being meaningful by the observer but not necessarily a complex story which would be a 'learning story'. Moments of learning can be documented and over time they may come together as a complex learning story (Joanne, teacher, Midway Survey, February, 2014).

Georgina elaborated further on learning and teaching moments. She describes them as "Learning or teaching moments occur when something, e.g. an action or behaviour that is unplanned or unexpected, happens and with teacher support it can be turned into a learning opportunity" (Georgina, teacher, Midway Survey, February, 2014).

Although nearly all (11/12) of the respondents answered this question in a list style, noting the things they contributed, one teacher, Erica, also commented on the importance of including a focus on dispositional learning and language. She commented that using this particular lens when she wrote meant that the Learning Stories were more meaningful for the children. She wrote:

> I contribute Learning Stories and Learning Moments on a weekly basis. I also feel my stories add to the documentation of the centre planning and assessment. I contribute my voice, the learning for the individual children, and group learning. I am incorporating dispositional language for each individual child as this is a focus within our centre. I feel that the contribution that I make of dispositional learning within the portfolios adds great substance for each child (Erica, teacher, Initial Survey, July, 2013).

Erica has identified the following learning story as an exemplar which meets her definition above.

Figure5.1 Erica's learning story exemplar

□□□□ the artist...

Child: □□□
Date: 22 March 2013
Teacher: □□

Over the past week we have been exploring with screen printing and like a bee to honey

□□□□, whenever there is something to explore creatively you are there. I notice the way that you naturally explore with the paint, and without it even being suggested you layered colour after colour until you were satisfied with the result.

I have been thinking and talking to the other teachers about children who intrinsically have an appreciation for beautiful things, and see the magic in unusual. □□□□ fits this description to me, I have also noticed how □□□ likes to take one copy of her drawings, paintings or collages home.

This morning Teacher and I discussed how to display the screen printing for everyone to enjoy, and I decided to ask the children to help me. □□□□ was by my side for over an hour carefully positioning pieces and taping them to the display. When we finally came to her paintings □□□ told me, "now I will be able to look at these while I'm having lunch aye □□ ".

What learning is happening here for □□□?
As I stand back and look at this screen printing display I see such an eye for detail, and I see value in the process of displaying as being so creative. Each painting is different in both positions but also in how the tape frames it. In talking to Parent she tells me that □□□

takes such pride in displaying her artwork she brings home from the Centre on her bedroom wall, and that she takes her cousins in to have a look when they visit. I could see such pride in ▨ today as she displayed her work, but also in the fact that she was leading and contributing to what our centre environment looks like, and how what we do here is valued and displayed for the wider community.

This experience will definitely made me reflect on how we display things in the Centre and wonder about the possibilities and opportunities for the children to be involved in the future.

After writing this story...
I was flicking through the pages of a magazine today at the supermarket and this picture jumped out at me.

5.1.5 Use of the paper-based portfolio within the ECE setting

Most of the respondents indicated that they regularly refer to the portfolio within the ECE setting (8/12 respondents). The other four teachers noted that they did not do this very often. The most common way the portfolios were used by the teachers in the ECE setting was with the children. This was to build on an interest or to revisit learning that had occurred in the past. The teachers also used the portfolios to get to know the child better, particularly if they were not the key teacher for that child. They shared the contents of the portfolio with other teachers to extend their own professional

growth and development, as noted above by Waimarama.   Two noted that they used the portfolio as a marketing tool with prospective parents.   This was to show these families the type of assessment undertaken at the ECE setting. Significantly, only three teachers noted that they looked at the portfolios with parents and whānau, and only when there was a particular story that they wanted to point out.   This is surprising as the teachers had acknowledged previously that parent and whānau engagement with children's assessment was important and was something that they were trying to foster.

Table 5.2 The way teachers use the paper-based portfolio in the ECE setting (data from Initial Survey, coded responses)

Teacher	Share with children (interest, revisit learning)	To get to know child better	Discuss with other teachers and inform planning	Share with parents and whānau	As a marketing tool (with prospective families)	Check that portfolio is up to date
Stephanie						✓
Katrina	✓					
Robin			✓			
Erica	✓	✓	✓	✓	✓	
Waimarama	✓	✓		✓		
Georgina						✓
Leslie	✓		✓	✓	✓	✓
Sandra	✓	✓				
Eilish	✓		✓			
Marie	✓					
Joanne	✓					
Fadimo	✓					
Total	**9**	**3**	**4**	**3**	**2**	**3**

Most of the teachers (9/12) used the portfolio in multiple ways, and on many different occasions.   Erica used the portfolio in many varying ways at different times.   She used it with children most often, to make connections about particular learning or interests, on a daily basis.   Discussions with teachers about the Learning Stories would occur on a weekly basis.   She would tell parents and whānau about something she was going to write then show them when it was added.   When parents asked questions about their child's development Erica was able to use the portfolio to illustrate the learning that had been happening.

Finally, she would use the portfolios occasionally to demonstrate the assessment practices of the setting to a potential family.

> I revisit children's learning to make connections over time, from teacher to teacher on a weekly basis when I am writing Learning Stories. If I am adding something in the first instance I will share verbally with family and then follow up when [the] story is published on a weekly basis. I use [the portfolio] to advocate for children's learning when I have queries from a family on a monthly basis. I use [the portfolio] as a tool for explaining assessment practices to prospective families as required. On a daily basis when on the floor with children I use [the portfolio] as a tool to revisit their learning, for the child this is a self-assessment tool (Erica, teacher, Initial Survey, July, 2013).

Revisiting learning with children was mentioned by just over half of the teachers (7/12), with six noting this as an important function of the portfolio. They commented on how this was a way to "share past learning experiences with the child" (Waimarama, teacher, Initial Survey, July, 2013) and how this revisiting is useful for "using the portfolio with the children to explore learning that has gone before" (Eilish, teacher, Initial Survey, July, 2013). I was interested in what 'revisiting' actually meant to the teachers and how the teachers used this to inform further experiences for the children. I included a follow-up question in the Midway Survey to investigate the concept further. The responses in the Midway Survey showed the importance the teachers placed on revisiting learning with the children and how the portfolios are an important tool in this process. They were able to articulate clearly the benefits of revisiting children's learning. Robin noted that "children can look at stories and remember, retry and extend their past experience" (Robin, teacher, Midway Survey, February, 2014). Stephanie made links to *Te Whāriki*, New Zealand's early childhood education curriculum:

> Within the New Zealand early childhood curriculum it underlines the importance of children revisiting the learning that happens over time. Portfolios are a way that children can do this through reading stories with adults and looking at pictures. To revisit for the child might mean that they see progress, perhaps see themselves as learners and are aware of their learning journey (Stephanie, teacher, Midway Survey, February, 2014).

The teachers noted the importance of children having access to their portfolios at any time to enable them to revisit their learning when they wanted to. During the observations undertaken at the setting I witnessed the children

freely taking any portfolio when they wanted to, not always their own. Often they would seek out the child whose portfolio they had to look at it with them. Leslie noted the importance of having the portfolios accessible to children:

> Our paper-based portfolios are currently placed on a shelf accessible to children at any time. Children spend time revisiting their learning and moments within the pages and share them with other children, teachers and families. By revisiting their learning children are able to see themselves in terms of their interests, their strengths, moments in play with others, moments of discovery or courage, and their creative work (Leslie, teacher, Midway Survey, February, 2014).

What did the teachers mean by 'revisiting learning'?

The teachers considered that going back to the portfolios and looking at them with someone else (child, teacher, parent or whānau member) meant that learning that had gone before could be remembered, and in some cases revived. When children looked at their portfolios and 'revisited' past events they were able to rekindle an interest or reflect on an experience. If this was done with a significant other then the children could be supported to take this 'revisiting' further. In this context I have defined revisiting learning as *recalling*, *reconnecting*, and *restarting* (see 5.6.1).

Reviewing the teachers' responses, it became evident to me that although some teachers did not specify that they were revisiting learning, this is what they were actually doing. Therefore I have grouped all comments that relate to revisiting learning in this category. The teachers also noted a couple of other ways they used the portfolios in the setting. They used the portfolios as a way to settle an upset child by looking at something familiar and special to them. Two teachers noted that they sometimes used the portfolios to aid in children's language development, using them like a story book and prompting children's responses.

Table 5.3 Reasons teachers looked at the paper-based portfolio with children (data from Initial and Midway Survey, coded responses)

Teacher	To revisit children's learning	To nurture belonging/ settling in	Language development	Teacher initiated interaction	Child initiated interaction	Teacher self-assessment
Stephanie	✓	✓	✓	✓		✓
Katrina	✓				✓	
Robin	✓				✓	
Erica	✓	✓			✓	
Waimarama	✓	✓	✓	✓	✓	
Georgina	✓	✓			✓	
Leslie	✓			✓		✓
Sandra	✓			✓	✓	
Eilish	✓			✓	✓	
Marie	✓			✓		✓
Joanne	✓				✓	
Fadimo	✓			✓	✓	
Total	**12**	**4**	**2**	**7**	**9**	**3**

Grouping the responses revealed that all the teachers had, in fact, included revisiting learning as something they did with children. Sandra said "We can document learning over time, link learning to passions and interests and assess children's progress over time to meaningfully plan for future learning opportunities" (Sandra, teacher, Midway Survey, February, 2014). Robin remarked "By following the children's lead we can assist in extending their prior learning and by using the portfolio as a jumpstart we can keep up the momentum" (Robin, teacher, Midway Survey, February, 2014). Other teachers focussed on the way revisiting learning can empower the children's own attitudes of themselves as learners. Georgina observed "Through 'revisiting learning' children can recognise their own progress and set themselves new goals" (Georgina, teacher, Midway Survey, February, 2014). Leslie noted "Children can be empowered through revisiting their portfolios as it is a special book all about them" (Leslie, teacher, Midway Survey, February, 2014). Lastly, Stephanie surmised:

> To revisit might mean for the child that they see progress in their own abilities, perhaps see themselves as learners and are aware of their learning journey. Revisiting is overall a time for the child, the teacher and the families to reflect (Stephanie, teacher, Midway Survey, February, 2014).

The teachers were asked if they looked at/shared the paper-based portfolio with parents and/or whānau when they came to the ECE setting. Six of the teachers stated that they did share the contents of the paper-based portfolio with the parents; five said that they did but not often and one said that they did not do this at all. Portfolios were looked at with parents and whānau most often when a new story was shared, or to share a particular aspect of a child's learning. They were also shared with parents and whānau to show what had been going on in the ECE setting, to encourage contribution and to take home. One teacher mentioned that they used the portfolio as a marketing tool with prospective families, another that they used it as a communication tool, sending messages home, and one noted that it was helpful for transition to school.

Table 5.4 Reasons teachers looked at/shared paper-based portfolios with parents and whānau (data from Initial Survey, coded responses)

Teacher	To share a new story/ aspect of learning	To give to parent/whānau to take home	Use with new families (marketing tool)	To encourage contribution	As a communication tool	As a transition to school resource
Stephanie	✓					
Katrina	✓					
Robin	✓					
Erica	✓		✓	✓	✓	✓
Waimarama	✓					
Georgina			✓	✓		
Leslie	✓				✓	
Sandra	✓	✓				
Eilish	✓					✓
Marie	✓	✓				
Joanne	✓					
Fadimo[14]						
Total	**10**	**2**	**2**	**2**	**2**	**2**

Waimarama considered there were some problems related to looking at/sharing the paper-based portfolios with parents and whānau. She said that she sometimes felt under financial pressure and was concerned about costs to the ECE setting. She noted "Photos are better. But then too many photos = more ink for printing = more cost for the centre = financial pressure??".

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[14] Fadimo did not do any of these things.

However Waimarama felt that this is what parents and whānau want to see in their children's paper-based portfolios. She also thought that the most difficult factor in looking at/sharing the paper-based portfolios with parents and whānau was lack of time – parents and/or whānau often appeared too rushed to spend time looking at the paper-based portfolios while at the setting. However, to combat this parents and whānau were regularly encouraged to take their child's portfolio home. Waimarama further elaborated in another post when she wrote:

> When I think about this question I would like to say yes I do on a daily basis but the reality is that I don't look at the portfolios with our parents and whānau as much as I intend to. Parents and whānau are often in and out of the centre very quickly. Or they pick up during busy times in the afternoon. Sometimes all the teachers can manage is a greeting and farewell on pickup which is sad. Timing is important. Often I get the impression that parents are rushed and feel like they don't have time to engage in the sharing of [their] child's learning journey (Waimarama, teacher, Initial Survey, July, 2013).

5.1.6 Value of paper-based portfolios

The teachers were asked to reflect on the value they placed on the paper-based portfolios for five different methods of use. These were to document children's learning, as a teaching tool, as an assessment tool, for parent and/or whānau engagement and accountability (for example with the Education Review Office or the Ministry of Education). All five of these methods of use were identified as either extremely valuable or somewhat valuable by the teachers.

Table 5.5 Value of paper-based portfolios (data from Initial Survey, coded responses) (n=12)

Method of use	Extremely valuable	Somewhat valuable	Little value	Not valuable at all	Unsure
To document children's learning	12	0	0	0	0
As a teaching tool	12	0	0	0	0
As an assessment tool	12	0	0	0	0
For parent/whānau engagement	8	4	0	0	0
For accountability	6	5	0	0	1

5.2 Observations – interactions with paper-based portfolios

Several observations of how children, teachers and parents and whānau used the paper-based portfolios where made over a week. During these

observations the interactions were recorded using running records, anecdotal snapshots and photography. The paper-based portfolios were frequently relocated in the setting. During this week the portfolios for the children aged between 2-5 years were located by the entrance door. There was a low table nearby, as well as a couch and several cushions. In the under-twos area the paper-based portfolios were in a basket which was either on the floor or on a table. In this area there was also a rack were some of the portfolios are kept.

Figure 5.1 Location of paper-based portfolios in the ECE setting
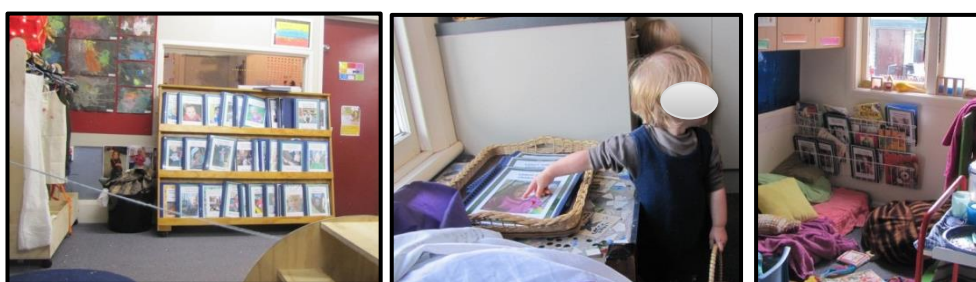
The majority of the interactions with the paper-based portfolios, with both age groups, were child initiated. During the day children often came and looked at the portfolios, both their own and those of other children. The children in the over-two area usually did this with another child or group of children, a teacher or a parent/whānau member; whereas those in the under-twos area interacted with the portfolios by themselves initially, then sometimes shared them with a teacher or another child.

5.2.1 Interactions with paper-based portfolios – over-twos

Below are examples of some of the interactions with the paper-based portfolios for the 2-5 year age group.

Observation: 17th July 2013, 10.47am

Jordan (child) asks Leslie (teacher) to look at his portfolio. They sit down on the floor together.

Jordan names all the people in a photo, affirmed by Leslie.

Jordan turns the pages of the Portfolio. Leslie says "Oh, look at the trains". Jordan looks at this story for a few seconds but doesn't comment.

Jordan begins to turn the pages again, consistently naming the people in the photos.

Henry (child) joins the pair with a story book and begins turning the pages. He accidentally rips a page in the book. Leslie says "Oh dear, I'll take that, I need to fix it with cellotape". Jordan says "I'll go and get the cellotape"; his portfolio is left on the floor. Jordan returns with the cellotape and the portfolio is forgotten.

Henry stands up and looks at the portfolio rack. He points at his portfolio and says "That's me". Milly (child) comes over to rack; Henry watches her look for her portfolio. When she has found it Milly takes it over to another bookshelf and tells Leslie "I'm going to look at my portfolio here", Leslie says "Okay". Jordan walks away, Henry follows. Milly looks at the front of the portfolio for a few seconds but doesn't open it. Milly walks away, leaving the portfolio on the bookshelf. Leslie picks up Jordan's portfolio and puts it back on the rack. Milly's remains unopened on the bookshelf.

Discussion

In the above example Jordan was the initiator of the experience. He approached a passing teacher, Leslie, and asked her to share the contents of the paper-based portfolio with him, which she happily did. As they moved through the portfolio Jordan was naming all the people in the photographs in an animated way, looking at Leslie for confirmation that he is right on several occasions, which she gave. The interaction was interrupted when Henry joined the pair with a story book and when he tore a page the portfolio was forgotten as Jordan volunteered to get the cellotape to fix the tear. Henry showed interest in his portfolio but was not encouraged by Leslie to share it with her or the other children involved in the interaction. He didn't remove his portfolio from the rack. Milly also showed interest in her portfolio, engaging the teacher by telling her that she was going to look at the portfolio "over here". Although Leslie responded to this she didn't approach Milly to look at her portfolio with her. It appears that the children in this interaction were all interested in engaging with the teacher and wanted her to interact with them and their portfolios; she did this with only one child. When she did not engage with the other children the portfolios no longer held interest for them and they left the area.

Sebastian walks over to portfolio rack and after looking through the portfolios picks up two and takes them to some indoor wooden steps. Sebastian says to Micah, who is playing nearby: "Come and look at your portfolio". Micah comes and sits next to Sebastian. Sebastian opens his own portfolio and says to Micah "That's my mum and that's my dad". Sebastian and Micah continue to look at each story together not saying anything until Micah stops Sebastian from turning pages by pointing to a picture and says "That's your girlfriend, eh?" Sebastian replies "Not now". Sebastian says to Micah: "Do you have a girlfriend?" Micah responds: "Do you know how much girlfriends I have?" Sebastian says "What number?" Micah replies "Five".

 (Researcher interrupted here by another child)

Micah is looking at a new story and a conversation begins about one of the children in the accompanying photo:

Micah: "Oh yeah, I remember that. Travis is going to come back."

Sebastian: "No".

Micah: "Luckily you are going to the same school"

Sebastian: "I'm not five yet"

Micah: "Yeah but luckily you are going to the same school"

Sebastian: "Yeah".

Sebastian and Micah walk away and leave their portfolios for a few seconds to look at something out of the researcher's view. They quickly return and continue looking through Sebastian's portfolio, while Micah's remains unopened. Sebastian leaves the area and takes his portfolio with him, Micah follows with his. The boys take their portfolios over to the Mobilo [a type of building block] which is nearby (Micah has been holding some throughout this interaction) and start building. They both sit on their portfolios.

Figure 5.2 Sebastian and Micah interacting with paper-based portfolios

Discussion

In this interaction although Sebastian and Micah were looking at Sebastian's portfolio it appears that they were using it as a prop to engage in conversations about other things. The photos are the catalyst for the topics for these conversations but they were not about the content of the story nor were they revisiting the learning which had been documented in the portfolio. Although there were teachers and other children in the area Sebastian and Micah were not interested in engaging them in their discussions and did not invite them to look at the portfolio with them.

Observation: 17th July 2013, 11.33am

Portia and James approach the rack and look for their portfolios.

Figure 5.3 Portia and James selecting their portfolios

Portia shows the researcher her portfolio then sits down on the floor and begins looking through it. James places his on the floor and begins to look through his. Portia moves from where she is sitting and sits next to James. Portia starts to comment on James's stories but quickly places her portfolio on top of James's. They begin to look at Portia's portfolio together. James says "Splat! I like the splat story". (He has recognised the title of a story). Portia turns the page and says "Oh look Daddy printed this one". She showed the researcher a photo of her with a Disney princess (it has been photo shopped to include Portia in the picture). Portia turns the page "Oh this was my number four birthday it was a Barbie birthday". James: "I was there, look, there's Jordan he's got the blue t-shirt". Portia says "And no-one was allowed to eat the hair", James responds: "Because it was a toy". James says "Can I turn the page?", Portia says "No, no no!" (She

holds the pages down so James can't turn them. When he stops trying she begins turning pages again.)

Portia: "Look my boat"

James: "I was trying to make the same"

Portia: "But it was too hard for you"

James: "Yes so I made another one" James looks at the researcher and says "It was 20 metres!". Robin comes over and crouches down with Portia and James, she says "We all remember that story" (referring to the story that Portia and James are currently looking at about making boats) "Georgina wrote it down to share with all of us". Portia continues to turn pages as Robin and James look on. She stops at a page and Robin reads the story out to her. She continues to turn pages until they become blank "that's all, that's the end", she shuffles the empty pages. Portia gets up and puts the portfolio back on the rack and walks away. James gets up and follows leaving his portfolio on the floor.

Figure 5.4 Portia and James look at Portia's portfolio

Discussion

Portia and James had been playing separately near the portfolio rack. On Portia's initiation they approached the rack and removed their respective portfolios. They initially looked at their portfolios separately but Portia quickly moved and took over the interaction by placing her portfolio on top of James's. James didn't protest and began looking at Portia's portfolio with her. James recognised a story in Portia's portfolio; it wasn't a group story so it is possible that they have looked at her portfolio together before. Discussion didn't centre around this story, however, as Portia has quickly took control again and turned the page. They talked about her fourth birthday as James and his brother Jordan

had been there and were in the photo. (It was taken at the ECE setting.) Portia continued to turn the pages until she stopped at a story about boats which several children had been involved in. A passing teacher, Robin, saw this and joined in as she was familiar with the story; they had a brief conversation about this. Robin sat with Portia and James as they continued to look at the portfolio and read out a learning story to them. (This wasn't asked for; Robin chose to read a story which Portia had stopped her page-turning to look at more closely). Once they reached the end of Portia's portfolio the interaction was over.

Observation: 19th July 201, 4.45pm

Erica (teacher), and Leo and Reece (children) look at their portfolios with their mum, Megan. Leo has initiated this by stopping to look at his portfolio on the rack as they are leaving at the end of the day. Erica and Megan look at one particular story which Megan has not seen before and discuss it. Leo participates in this discussion, watched by Reece and Sidney (another child). Both Leo and Reece want to take their books home with them; Megan puts Leo's in his bag, Reece carries hers out.

Figure 5.5 Erica, Leo, Reece and Megan interact with the portfolios (case study family number five)

Discussion

Reece and Leo's mother Megan had arrived to collect them at the end of the day. As they were leaving Leo stopped to find his portfolio on the rack. Erica, who was saying goodbye to the children, asked Megan if she had seen Leo's latest story. Megan hadn't, so the group sat down together to look at it. They were joined by Sidney, who watched the interaction but didn't say

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anything. Erica said hello to her. Reece got her portfolio too. They spend about two minutes discussing the story that had been written for Leo and then Megan said it was time to go. Both children wanted to take their portfolios home. Megan asked Erica if this was okay, Erica responded that it was fine and they left with their portfolios.

5.2.3 Interactions with paper-based portfolios – Under-twos

Observation: 19th July 2013, 9.23am

Joanne is on the couch feeding a bottle to Sara with Matt sitting next to her. Dayton and Mackenzie are on the floor investigating the objects there. Dayton has another child's portfolio which she is exploring. She crinkles the pages, turns the pages, pushes it along the floor and sits on it. Mackenzie approaches and tries to pull the portfolio out from under Dayton with no success. She goes back to investigating the objects on the floor.

Figure 5.6 Dayton and McKenzie investigating a paper-based portfolio

Discussion

Although there was a teacher present during this portfolio interaction she didn't say anything or become involved. Dayton was interested in the way the pages turned and the sounds they made. She was screwing up some of the pages but the book was not taken off her, nor was she told to stop. Joanne was allowing Dayton to explore the portfolio in her own way. Dayton appeared to be more interested in the tactile nature of the book and the way it moved across the floor when she pushed it. Mackenzie tried to get to the portfolio by pulling it while Dayton was sitting on it. When she was not successful, however, she wasn't worried and carried on with her exploration of the toys and other objects provided for the infants.

Amelia is looking in the portfolio basket. She chooses another child's portfolio and puts this on the floor. Stephanie comes and sits next to Amelia. Chloe follows Stephanie but remains standing. Amelia opens the portfolio to the first page, which contains photos of all the teachers. Stephanie asks "Where's Erica?" Amelia responds with a smile and points to the picture. Stephanie continues to ask "where's [teachers name]?" for a number of teachers. Stephanie then starts pointing to the pictures of the teachers and says "Who's that?" Amelia points to Stephanie and Stephanie says "That's right, it's me, Stephanie!" She continues to do this for a few more teachers. Chloe continues to watch but doesn't get involved. Stephanie gets up to talk to another teacher at the door and help lift a table back into the room. Amelia continues to take portfolios out of the basket, one at a time, and looks at each one.

Amelia then notices Neralie, who is sitting with Stephanie. Amelia picks up a portfolio and takes it to Stephanie and Neralie. She places the portfolio on the floor in front of Neralie and then sits down. Neralie looks at the portfolio, Stephanie says "Oh, Amelia you have brought Neralie's portfolio over for her, shall we look at it together?" Amelia smiles then points to a picture, points to Neralie then points back to the picture. Stephanie says "Yes, that's Neralie, are you showing Neralie her portfolio?" Neralie crawls away. Amelia leaves; the portfolio remains on the floor.

Figure 5.7 Stephanie, Amelia and Neralie interact with paper-based portfolios

Discussion

As with the portfolios in the over-two area the portfolios in the under-twos were accessible to the children at any time. Amelia was able to stand so she could reach the basket, which had been placed on a low table, without any assistance from an adult. She took the portfolios out of the basket until she

recognised hers, which had her photo and name on the front. She put this on the floor and opened it. Stephanie engaged with her straight away by looking at the photos of the teachers, which were contained at the start of each child's portfolio. Amelia recognised the teachers in the pictures and responded to Stephanie's questions. When Stephanie left the interaction to talk to another teacher Amelia continued to turn the pages of her portfolio, and didn't stop at any stories for any length of time. When she noticed Neralie, who was close by, Amelia found Neralie's portfolio in the pile on the floor and took it over to her and Stephanie. Neralie looked at the portfolio but made no attempt to take it. Amelia had recognised another child's portfolio and tried to engage her by bringing it to her, but Neralie was not interested. Stephanie supported Amelia's attempt at interaction by encouraging her to continue to engage with the portfolio; however, when Neralie showed no interest, Amelia moved away.

5.4 Conversations with children – paper-based portfolios

Conversations with children about their paper-based portfolios were recorded. When possible, the portfolios were available at the time of these conversations to look at alongside the discussion. All of the children talked to knew where to find their portfolios; some mentioned that theirs was currently at home. Each child could name a favourite story and relay it in detail; they all appeared to be very familiar with the content of their individual portfolios. Lila said: "My favourite story was when I was a little baby and I was dressing up" (August, 2013). Some also knew what was contained in their friends' portfolios, often because the story they were referring to was similar to something in their own portfolio. For example, several mentioned that their favourite was "Playing in the firepit" (Jack, Micah, Sebastian and Tane, August, 2013) and that they particularly enjoyed the interactions with Robin (teacher) in this experience. Each child took ownership of their portfolio when sharing it with the researcher. Milly (August, 2013) affirmed this when she said "This is all mine" whilst hugging her portfolio tight. They took charge of turning the pages and choosing which stories/documentation would be looked at in more detail. The children pointed out various forms of documentation while looking through their portfolios and commented on these as follows:

- Learning Stories (individual and group)
  - "There's trains in my 'folio" (Jordan, August, 2013)
- Their artwork
  - "I really like drawing and the teachers put some in my 'folio" (Jack, August, 2013)
- Photos of family
  - "That's my family! And that's a crayfish, it's alive in that photo" (Lila, August, 2013)
- Photos of teachers (included in all children's portfolios)
  - "These are all the teachers" (Milly, August, 2013)
- Photos of special occasions
  - "That's my number four birthday!" (Lila, August, 2013)
- Photos of items they had brought to the ECE setting
  - "That's my Barbie car, I brought it here" (Milly, August, 2013)
- Photos of friends, of particular interest where photos of friends who had gone to school.
  - "There's Johnny in the sandpit, he's gone to school now" (Jack, August, 2013)

When asked who they looked at the portfolio with at the ECE setting, the majority said they looked at it most often with their friends. Four of the children said they looked at their paper-based portfolio with teachers; they named Joanne, Robin and Leslie. Only two of the children said that they looked at the portfolios with Mum or Dad whilst at the ECE setting. All of the children said that they took their portfolios home. At home they shared them with Mum and Dad and brothers and sisters; no extended family members were mentioned. One child (Micah) said that he looked at it with a friend at home (Sebastian) but Sebastian said he had never been to Micah's house.

5.5 Parent and Whānau Survey Responses

The surveys were sent to parents and whānau via email link or in paper-based format depending on the preference they identified on their consent form. Twenty-six responses were received for the Initial Survey.

5.5.1 Parent and whānau experience with paper-based portfolios

100% (26/26) of the parents and whānau who responded to the Initial Survey knew where their child's/children's paper-based portfolio was located at the ECE setting. Parents and whānau accessing of the paper-based portfolios varied, from daily to only when something new is added.

Table 5.6 How often parents and whānau accessed the paper-based portfolios (data from Initial Survey, checklist)

How often parents and whānau accessed the paper-based portfolios	Number of parents and whānau who did this (n=26)
Monthly	14
Weekly	4
Daily	1
Every 2-3 months	1
Every 6 months	1

The remainder of the parents and whānau accessed their child's/children's paper-based portfolios only:

- Every now and then (2)

- When out of town family were visiting (1)

- When something new was added (1)

- Less than monthly as it was not updated very often (1)

The value of being able to share the portfolio with out of town family was highlighted by Ariana who noted "We have no family in [the city], so when we know the family is coming for the weekend we take the books home to show the grandparents" (July, 2013).

When asked how often they would take the paper-based portfolio home parents and whānau response again varied, ranging from weekly to never taking the portfolio home.

Table 5.7 How often the paper-based portfolio was taken home (data from Initial Survey, checklist)

How often the portfolio went home	How many parents and whānau took it home this often (n=26)
Monthly	11
Weekly	2
Every 2-3 months	2
6 monthly	2
Never	2
Fortnightly	1

The balance of the families took the paper-based portfolios home only when:

- Their child showed great interest in it (1)

- When out of town family came to visit (2)

- When it was updated (1)

- Less than monthly as it did not get updated very often (1)

The final respondent kept the paper-based portfolio at home and only returned it to the setting when there was something new to be added.

The parents and whānau who did take the paper-based portfolio home had different purposes for doing so. Parents and whānau used the paper-based portfolio in a variety of ways when it came home. Through the portfolios parents and whānau were able to share in what was happening at the ECE setting. They were able to be part of their children's learning, observe the child's progress and share it with family and friends.

Table 5.8 Purpose in taking paper-based portfolio home (data from Initial Survey, coded responses)

Purpose in taking the portfolio home	Number of parents and whānau who had this purpose (n=26)
To share with the child	14
To share with family	12
To see child's progress	6
To see what is happening at the setting	4
As a learning tool	4

Samantha captured many of these notions when she wrote:

Our child will talk to each of the pages for us. It is a useful sharing and learning tool to help celebrate his [sic] achievements, inform us of his developments and helpful links back to Te Whāriki. We also share this with his grandparents and we take it on our travels to share with whānau. As parents, gives us an

insight into the daily routines that are established at the centre which our child participates in. We love seeing pictures of him, especially as they capture moments that we could not be part of due to work – precious! (Samantha, parent, Initial Survey, July, 2013).

The benefits of parent engagement in children's learning can be seen when Megan remarked "We sit down and look at it with our child and discuss it together. Us two [sic] parents discuss the child's development and the things we can do inspired by it" (July, 2013). Supporting this Charlie said "I take note of her [sic] development stages and try to do the same activities at home to help with her development" (July, 2013).

When the paper-based portfolio was taken home it was often shared with others. Those identified were immediate family, wider family, friends, own child and partner.

Table 5.9 Who paper-based portfolio was shared with at home (data from Initial Survey, coded responses)

Who the portfolio was shared with	Number of parents and whānau who did this (n=26)
Wider family (Grandparents, aunts, uncles, siblings)	22
Friends	8
Partner	4
Own child	2

Significantly the portfolio was often shared with children's grandparents with 14 of the respondents noting the importance of this. However this sharing generally occurred only when the grandparents came to visit. Maria mentioned that they share the portfolio with "Grandparents if they are here and surrogate grandparents" however she also noted that "One went to England on holiday to show the family there" (parent, Initial Survey, July, 2013).

A number of respondents noted that they would read the Learning Stories contained in the portfolios to their children (12/26). Angela said "We usually read it together with [child's name] and she tells us about what has been happening at preschool" (parent, Initial Survey, July, 2013). For some families the reading of the stories was part of a routine "We read the new entries at story

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time before bed" (Christine, parent, Initial Survey, July, 2013).   It will be interesting to see if this continues with the introduction of the ePortfolios.

5.5.2 What did parents and whānau contribute to the paper-based portfolios?

The parents and whānau were asked what they contributed to their child's paper-based portfolio. Sixteen of the 26 respondents stated that they did not contribute anything, one of these noted that they did not know that they could with Daisy questioning "How?" (parent, Initial Survey, July, 2013). William said "I don't really know what to contribute" (parent, Initial Survey, July, 2013) whilst Charlie noted "I don't add anything to her [sic] portfolio.   Just acknowledge and appreciate the different activities and stages" (parent, Initial Survey, July, 2013).

Table 5.10 Why parents and whānau didn't contribute to the paper-based portfolios (data from Initial Survey, coded responses)

Why not	Number of parents and whānau who identified this (n=26)
Forget that I can/Did not know I could	7
Don't have time	4
The ECE Setting does the best job	4
Doesn't come home	1

The ten respondents who said that they did contribute to the portfolios added items such as photos, artwork, short comments and parent voices. Several also noted that they did not contribute physically but shared ideas/stories with the teachers for them to add to/build on.

Table 5.11 What parents and whānau contributed to paper-based portfolios (data from Initial Survey, coded responses)

What was contributed	Number of parents and whānau who did this (n=26)
Photos	6
Share ideas	4
Comments/Parent's voice	3
Artwork	1

5.5.3 Value of paper-based portfolios

The parents and whānau were asked what they liked about their children's paper-based portfolios. The most valuable aspect of the paper-based

portfolios appeared to be that through viewing them parents and whānau were able to share in their children's experiences. This was closely followed by photos, which gave a visual insight into what their children were doing whilst at the ECE setting. Several of the respondents also enjoyed reading the Learning Stories and being able to see the learning that was happening through these. They also liked to be able to see their child's developmental process through their learning journey contained in the portfolios alongside their artwork, as well as knowing that their child had a place and felt a sense of belonging at the ECE setting.

Table 5.12 What parents and whānau liked about their child's paper-based portfolio (data from Initial Survey, coded responses)

Feature	Number of parents and whānau who liked this (n=26)
See child's experiences	12
Photos	11
Learning Stories	8
Review development	6
See learning	4
See child's relationships	2
Artwork	2
Sense of belonging	1
Making memories	1
Links between home the ECE setting	1

5.5.4 What did parents and whānau like least about their child's paper-based portfolio?

Parents and whānau were then asked what they did not like about their child's paper-based portfolio. Seven of the respondents said that they were happy with the paper-based portfolios and there was nothing that they did not like about them. Several noted that the paper-based portfolios were not updated very often so they were often frustrated by the length of time between stories. A small number noted other things that they did not like such as grammatical and spelling errors, language used (jargon), irrelevant stories or not individualised, hard to find amongst other portfolios and forgetting to take it home.

Table 5.13 What parents and whānau liked least about the paper-based portfolios (data from Initial Survey, coded responses)

Feature	Number of parents and whānau who did not like this (n=26)
Not updated very often	6
Not notified when something new added	2
No goals/planning identified	2
Grammar and spelling errors	1
Language used (jargon)	1
Doesn't reflect the uniqueness of boys	1
Bulky	1
Cannot copy photos	1
No aural experiences	1
Some stories irrelevant (group stories)	1
Hard to find amongst other portfolios	1
Forgetting to take it home	1
Stories too long	1
Parents' contributions not used/extended on	1
Not individualised	1
Finding the time to read it	1

One respondent, Caroline, contributed many of these. She said:

> It's hard to find amongst the other portfolios, I have no idea when it has been updated, it's not updated very often, I have to lug it home and remember to take it back again (to be able to read it in detail), I have to take it to Nana and Granddad's and pick it up again and I can't copy out the photos to use (Caroline, parent, Initial Survey, July, 2013)

Subsequent to the above question the parents and whānau were asked if there was anything that they would like to see added to the paper-based portfolios. Some noted that they would like to see a weekly summary of what had been happening at the ECE setting included. Others would have liked more information on their children's closest friends and on the teachers, including seeing photos of teachers engaged with children's play. Several mentioned that they would like to see more Learning Stories, more often, although one noted that they would like fewer of these and more photos. One respondent suggested including the waiata (songs) that were being learnt at the setting so they could sing these at home with their children, and two proposed that the stories could be more educationally focussed with links made to *Te Whāriki*.

5.6 Emerging themes and suppositions

Some common themes had become evident through the teacher, parent and whānau survey responses. These themes were also apparent in the observations of children interacting with their paper-based portfolios, the conversations with children about their paper-based portfolios and through analysis of the paper-based portfolios. Each of the themes contributed to the development, or lack of development, of the community of practice operating within the ECE setting.

Figure 5.8 Emerging themes - paper-based portfolios

5.6.1 Irregular and inconsistent formative assessment from teachers

A significant number of the respondents to the parent and whānau survey identified that the formative assessment documentation in the paper-based portfolios written by the teachers was irregular and inconsistent. There would be long spaces between additions to the children's portfolios and that when there was something new added parents and whānau were often not notified of this. The Learning Stories contained in the paper-based portfolios were inconsistent in format and content. Some teachers used theory and research to support their Learning Stories, whilst others did not. Some teachers

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identified what learning was happening in the Learning Stories, and again, others did not. The review of the paper-based portfolios showed that teachers were very rarely referring to theory and research and only a few Learning Stories identified what learning was happening. The teachers themselves noted that they wanted to get better at writing Learning Stories. They did not feel that they contributed often enough or that their stories were of sufficient quality and depth.

5.6.2 Very little or no contribution from parents and whānau

Parent and whānau contribution to children's paper-based portfolios was nearly non-existent. Parents and whānau identified several reasons for this. The majority who did not contribute did not know that they were welcome to add to their children's paper-based portfolios or felt that the ECE setting was doing the best job. Some noted as well that the paper-based portfolios were difficult to add too, with no specific places for parent or whānau contribution or comment. Time was a factor for some of the parents and whānau as they noted that they just did not have time to make a worthwhile contribution. Although ten of the respondents noted that they did make contributions to the paper-based portfolios, these contributions were not evident in the analysis of the paper-based portfolios of the case study children (see chapter six). The example provided in this chapter was representative of the majority of the paper-based portfolios analysed which were from a cross-section of the ECE settings population (see figure 5.0). No parent or whānau contributions were included.

5.6.3 Recalling, reconnecting with and restarting previous learning[15]

The teachers, parents and whānau identified the essential role that paper-based portfolios have in assisting to children to revisit their previous learning experiences. The observations undertaken in the ECE setting showed that children regularly interact with their paper-based portfolios, and that one of the main purposes of doing so is to revisit past learning experiences, either on their own or with others. Recalling learning meant that children were able to remember a past event but they would not continue this learning experience.

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[15] This is my definition and is further expanded on in Chapter Ten.

Recalling learning often included retelling an event to an adult or peer. The paper-based portfolios supported children to reconnect with learning. By reviewing previous learning experiences children could reconnect with this learning and may take up where they had left off. For example, a child may have demonstrated an interest in trains previously. Through revisiting the documented formative assessment of this interest the child's interest may be rekindled and they again explore this interest. The formative assessment in the paper-based portfolios allowed to children to restart their learning. Through revisiting their past learning experiences children could take this learning further, either by themselves or with the support of teachers, parents, whānau or their peers. Taking the above example, if a child rediscovers their interest in trains by revisiting formative assessment they could then expand on this learning by investigating other forms of transport besides trains. This would most likely be done with the support and encouragement of others.

5.6.4 Some evidence of a developing community of practice

Although parent and whānau contributions were not particularly visible in the children's paper-based portfolios there was some evidence of a developing community of practice; however, this CoP was very much in its infancy. The teachers wanted to strengthen parent and whānau involvement with their young children's learning through the paper-based portfolios, but they indicated that this was difficult to achieve. A few of the parents and whānau were participating in their children's learning through the paper-based portfolios by sharing photos and engaging in conversations with the teachers. Children were involved in their own learning through the paper-based portfolios. This was evident through the regular revisiting of learning experiences observed in the ECE setting. However, the children were not contributing to their paper-based portfolios on a regular basis. On occasion they might ask for a specific piece of artwork to be added but what went into the paper-based portfolios was mainly controlled by the teachers. This investigation was interested in finding out if the juvenile[16] community of practice grew with the introduction of the ePortfolios.

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[16] This is my definition – meaning a community of practices that is only just beginning to develop.

Figure 5.9 A developing community of practice
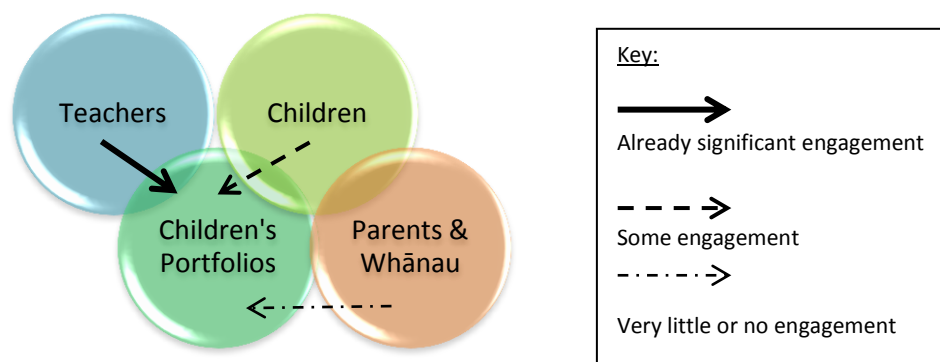
5.7 Summary and looking forward

This chapter has presented the findings of the first round of data collection in relation to the paper-based portfolios which were already in place at the ECE setting. The views of the teachers, parents and whānau on the value of paper-based portfolios were reported alongside observations of children and adults interacting with paper-based portfolios and conversations with children. Four themes have emerged from these findings:

- That paper-based portfolios assist children to recall, reconnect with and restart learning;

- That the formative assessment documentation presented in the paper-based portfolios was irregular and inconsistent;

- That there were very few, or no, written contributions to paper-based portfolios from parents and whānau;

- That there was some evidence of a developing community of practice but this was still in a juvenile form.

These themes will continue to be explored in the next chapters as the findings from the intervention of ePortfolios are introduced. The following chapter will present the six case studies and explore the findings from each.

Chapter Six – The Case Studies: Setting the Scene

6.0 Introduction

This chapter introduces the case study participants. It will identify the key points made by each family and their key teacher about paper-based portfolios and ePortfolios. The findings from the case studies will be further discussed, alongside the other findings chapters (Five and Seven), as each of the key themes are developed (in Chapters Eight, Nine and Ten).

6.1 Case study one – Sandra, Trudy and Lila

Sandra was a teacher in the ECE setting. She had been at the setting for just over three years. After originally completing a media arts degree and working in this field for two years – teaching art to adults with disabilities – Sandra decided to retrain as an early childhood education teacher. She completed a one year Graduate Diploma in Early Childhood Education and during this time she undertook placements at the ECE setting where this study was situated. Through these placements she was offered a teaching position at the setting on graduation. She worked part time – two days per week. Sandra had one daughter who at the beginning of the research period was ten months old and did not attend an early childhood education setting.   She was also step-mother to a 12 year old who lived with Sandra and her husband full time. Sandra worked in the over-twos area and was the key teacher for Lila.

Trudy was the parent of Lila who was attending the ECE setting at the start of the research. Trudy's older daughter had also attended the setting until she started school. When Trudy began studying she enrolled Lila at the ECE setting.

Lila started attending the ECE setting when she was between six and eight months of age (Trudy couldn't recall her exact age). She was enrolled in the under-twos initially. She was two years and ten months old at the start of this research and attended four days a week when her older sister was at school.

Sandra's experience with paper-based portfolios

Sandra saw contributing to paper-based portfolios as a requirement of her job; however, she did acknowledge that there was definite value in the paper-based portfolios. She noted that the paper-based portfolios showed a child's learning journey over time. She felt that this meant they could be used to plan for assessment for learning, revisit the child's learning and engage parents and whānau in the child's learning.

Although Sandra recognised the use of paper-based portfolios as a way to encourage parents and whānau to interact with their children's learning, she acknowledged that the engagement with parents and whānau needed strengthening. Sandra further stated that this was something that teachers were responsible for nurturing, but this was something that the teachers at the ECE setting, herself included, needed to get better at.

Sandra liked that the paper-based portfolios were accessible to the children, they were kept at their level so the children could look through their portfolio, and those of others, whenever they liked. The paper-based portfolios were also accessible to teachers, Sandra noted, and this made planning for children's experiences relatively easy. As the paper-based portfolios contained formative assessment documentation contributed by several teachers this meant that any planning Sandra did was guided by what others had also observed.

Trudy's experience with paper-based portfolios

Trudy and her family valued the paper-based portfolios. Trudy felt that the paper-based portfolios allowed them to be actively involved in what was happening in the ECE setting for Lila. The family were also able to explore Lila's feelings in greater depth through discussion about the stories. This was particularly important to Trudy as it meant she was able to share Lila's experiences at the setting with her partner who very rarely came to the ECE setting. Out of town family members could benefit too, on occasion, when the portfolio was taken to them on a visit, or if it was at home when they came to stay.

Trudy's older daughter, Kirsten, has also attended the ECE setting. Several Learning Stories had been written about Kirsten and Lila playing together at the ECE setting and Trudy acknowledged the benefits of shared Learning Stories about siblings. These, she said, were amongst her favourites.

Trudy was able to recall her favourite story about Lila and also one that Lila particularly liked. This meant that they could reminisce about these events, even when the portfolio wasn't physically with them.

In terms of contributing to the paper-based portfolio, Trudy hadn't really done this. She had added some of Lila's artwork which she did at home on occasion but nothing else. In fact, Trudy was unaware that she was welcome to make other contributions such as her own Learning Stories, photo additions or comments.

What Lila's paper-based portfolio showed

Lila started at the ECE setting in August 2011. During 2011 four Learning Stories were written for Lila and put into her paper-based portfolio. Two pieces of artwork from 2011 were also included in the portfolio. In 2012 there were 14 individual Learning Stories about Lila in the portfolio, one group photo montage and one piece of artwork. In 2013, prior to the implementation of the ePortfolio programme, just three Learning Stories had been written; however, these were in the new ePortfolio format. Following is an example from Lila's paper-based portfolio that is reflective of the formative assessment documentation it contained (see Appendix Ten for further examples). There were no parent or whānau contributions in Lila's paper-based portfolio, other than the artwork that Trudy had added.

Table 6.0 Contents of Lila's paper-based portfolio from August 2011 - June 2013

Learning Stories	Group Learning Stories or montages	Artwork	Other items	Parent/Whānau comment/contribution
21	1	3	0	0

Through analysing Lila's paper-based portfolio it became apparent that there was no one way of completing Learning Stories. Each teacher who contributed to the portfolio wrote their stories in a different way. Some stories were hand written, whilst others were typed. In the 22 months prior to the implementation of the ePortfolios, 21 Learning Stories had been added to Lila's

paper-based portfolios. Most of these Learning Stories were primarily snapshots of learning moments. They did not include deep reflection by the teachers. Sometimes the learning that was happening was identified but this was very rarely accompanied with ideas for 'where to next' or further learning opportunities. During 2012 some teachers did start adding theory and research to Lila's Learning Stories, but what this actually meant for Lila's learning process was unclear. There were no parent or whānau contributions at all in Lila's paper-based portfolio, apart from the artwork noted above. As mentioned previously, Trudy was unaware that she was able to contribute. This was a disconnect from what the teachers were saying, because they felt that they had tried to encourage parents and whānau to contribute by adding spaces for the parent's voice.

Sandra's experience with ePortfolios

At the end of the data collection period, when ePortfolios had been up and running for a year, Sandra still felt the same about contributing to them. She still deemed that this was part of her job so the expectation was that she did so. However, Sandra was able to identify multiple benefits of the ePortfolio system. The format of the platform meant that more Learning Stories and learning moments were being written, and that these were more meaningful. The meaningfulness of the stories was further strengthened by the significant change to parent and whānau engagement. It was easier for the teaching team to make connections to home using the contributions made by parents and whānau.

Sandra considered that using the ePortfolio system had enabled the teaching team to become more reflective in their teaching practice. They were reading each other's stories more and were contributing to more children's ePortfolios. Sandra acknowledged a difficulty associated with the ePortfolios: they were not as accessible to the children as the paper-based portfolios. She thought that this could be overcome if the right technology was made available to the children. Overall Sandra valued both formats but if she had to choose she would pick ePortfolios.

Trudy's experience with ePortfolios

In the Initial Interview one of the main reasons Trudy liked the paper-based portfolio was because it allowed her and her partner to see what Lila had been doing at the ECE setting. This was particularly important for Trudy's partner who very seldom came to the ECE setting. With the introduction of ePortfolios Trudy felt that this had got even better. Her partner was now regularly working out of town and because his email was linked with Lila's ePortfolio he received notifications when a new story was added and he was able to look at this straight away on his phone.

Trudy placed significant value on the ePortfolios for exploring Lila's assessment for learning. She was now revisiting this learning with Lila frequently, rather than only occasionally. She was contributing to the learning through comments and stories, and her partner was beginning to do so also. Trudy was able to share the ePortfolios with family and friends easily, which meant that they too were seeing Lila's learning journey more often. Although she was aware that she could grant access to her family members to Lila's portfolio so they too could make contributions, Trudy hadn't done this yet.

Trudy considered that the ePortfolios were far more accessible than the paper-based portfolios and that Lila was enjoying this format more. She valued the videos and how these further expanded on the stories. Trudy could see a place for both systems. The ePortfolios were very suitable for her and her family but she felt that Lila still needed to be able to access her paper-based portfolio whilst at the ECE setting. However, if she had to choose, like Sandra she would pick ePortfolios.

What Lila's ePortfolio showed

From July 2013 to July 2014, the data collection period, there were 41 Learning Stories added to Lila's ePortfolio. Seven of these Learning Stories contained a video. Trudy had written six of Lila's Learning Stories and there were 18 further parent and whānau comments throughout the ePortfolio. Following is an example from Lila's ePortfolio (for further examples see appendix ten).

Table 6.1 Contents of Lila's ePortfolio from July 2013 - June 2014

Learning Stories	Group Learning Stories or montages	Artwork	Videos	Parent/Whānau comment/contribution
41	0	0	7	24

Figure 6.1 An Example of a learning story in Lila's ePortfolio

These photos were taken by [____], a teaching student, and he was hoping to write this story but unfortunately he had to go back to university before he could. I hope that can do the story justice. On the 26th of July we had the ukulele's out and [____] put his music degree to good use and joined a group of you by the back door for the music session. As there was some paper at the table [____] began 'writing' music notes on the paper.

[____], your curiosity kicked into gear as you wondered what he was up to. [____] explained what he was up to and how the marks on the paper represented musical notes.

Now you had the idea there was no stopping you, as the bottom photos show you got busy and 'wrote' your own composition then, as the top photo shows, you played you music for [____]

Tu Meke You!!!

What learning do I think is happening here?
Your portfolio reflects a creative flair, with art and writing at the forefront and this story shares that you have found another way to share your beautiful ideas. This story also shows me that you are quick to grasp concepts and turn them into a vehicle to express yourself.

Opportunities and possibilities?
Who knows what we might see, the speed with which you grasped this concept the world is your oyster. I wonder if we will get to hear this music again, I certainly hope so because I missed the original performance.

Link to Te Whāriki	
COMMUNICATION	Children experience an environment where they discover and develop different ways to be creative and expressive.
EXPLORATION	Children experience an environment where they develop working theories for making sense of the natural, social, physical, and material worlds.

The most startling change to Lila's ePortfolio was the number and frequency of parent contributions. Lila's parents were regularly adding a comment to Learning Stories that the teachers had written and had also begun adding Learning Stories of their own. There was also a significant increase in the number and frequency of Learning Stories being added for Lila, which had nearly doubled. Her paper-based portfolio had been added to only 21 times in nearly two years, whereas over the one year period of data collection 41 Learning Stories had been added to her ePortfolio.

The inclusion of seven videos in Lila's ePortfolio added a different dimension to the way that the teachers were able to show parents and whānau the learning that was occurring for Lila while she was at the ECE setting. The consistency and quality of the teachers' formative assessment had also changed. The majority of the Learning Stories written for Lila in the ePortfolios included an identification of what learning was happening and where the strength, interest or learning disposition could be taken in the future.

More of Lila's learning stories included links to research and theory and clearer links were being made to this and the learning that had been identified. The way the teachers were writing in the ePortfolios was significantly different to the writing in the paper-based portfolios. The stories had more substance, there was evidence of deeper reflection by the teachers and the stories had become more consistent.

6.2 Case study two – Joanne, Pauline and Ethan

Joanne had been employed at the ECE setting for the last seven and a half years. She had a Diploma of Teaching (ECE). For the previous three years she had worked with the under-twos. Originally Joanne had worked in the hospitality industry, then had done some relieving for the ECE setting before applying for a permanent job. She completed her diploma whilst working at the setting. Joanne had two children who attended the setting. Joanne was the key teacher for Ethan in the under-twos.

Pauline was Ethan's mother. She had been a stay-at- home mother for a few years before returning to full-time work in February 2013. Pauline had two other children, one older daughter, Milly, who was in the over-twos section of the ECE setting at the beginning of this study and a new baby born during the research period.

Ethan was 14 months of age when the research began, and was in the under-twos section of the setting. He began full time in February 2013 when Pauline went back to work.

Joanne's experience with paper-based portfolios

Joanne was very enthusiastic about the paper-based portfolios and the assessment for learning they contained. As writing was a passion she had had for a long time she enjoyed writing the Learning Stories and sharing these with children, parents and whānau. Joanne was able to write several stories per week and regularly shared these with parents and whānau. She valued the contact with parents and whānau the paper-based portfolios afforded and thought that it was important to talk to parents and whānau about the portfolios, not just send them home, because this was where the connections between home and the ECE setting were made. Through these conversations, Joanne thought that she was able to get to know the children, their parents and whānau well.

Joanne also saw the value of paper-based portfolios as an assessment tool. Through the portfolios the teachers were able to notice what was important to the child and also their development over time, and were then able to think about "where to next". They could plan their programme to suit the children's interests and needs, and they could work out what extra equipment or resources they might need to enhance the child's learning.

In the under-twos area of the setting, where Joanne worked, the paper-based portfolios were kept either in a basket which the children could reach or in a low rack on the wall. This, Joanne said, meant that the children could access the portfolios whenever they wanted to. Joanne felt that it was vitally important

that children could access their paper-based portfolios whenever they wanted to, to enable them to revisit past learning experiences. She was a staunch advocate of paper-based portfolios.

Pauline's experience with paper-based portfolios

Pauline considered the Learning Stories within the paper-based portfolios to be valuable. She thought that the stories were detailed and that through reading these that she could see the teachers had paid a lot of attention to what the children had been doing. This perception was based on her elder daughter's portfolio because at the onset of the research, although he had been at the ECE setting for six months, there were only two Learning Stories specifically written for Ethan in his paper-based portfolio. Pauline also liked seeing the photos contained in the paper-based portfolios; this gave her a sense of what was happening at the ECE setting. Ethan's paper-based portfolio was also read by his father, and Pauline also liked to share the portfolio with people who visited their home, in particular Ethan's grandparents. However, even though several family members looked at the paper-based portfolios, none of them contributed anything, including Pauline. Like Trudy, she did not know that she could.

When asked what she liked least about the paper-based portfolios Pauline said that this was definitely remembering to take them home, and then once they were at home remembering to bring them back. She said that she was particularly bad at bringing the portfolios back so they often spent quite some time at home. However, Pauline said that while the portfolios were at home she sometimes looked at them with the children. She noted that this was the only place that she looked at the portfolios with the children; she did not look at them at the ECE setting. This was because, she said, of the time factor. When she was picking up or dropping off she really just wanted to keep going rather than spend time at the ECE setting.

Pauline had favourite stories in both of her children's portfolios. For Ethan it was one that was written for him when he had been at the ECE setting for about a week. This story included all the things that the teacher had noticed

about him, and Pauline felt that the teacher had spent a lot of time putting this learning story together. This showed that the teacher had taken the time to get to know Ethan. Pauline noted that through the Learning Stories the paper-based portfolios aided in children's learning. The portfolios showed what her children were interested in and this meant that she was then able to support them to carry on this learning at home.

What Ethan's paper-based portfolio showed

Ethan's paper-based portfolio was started in February 2013. At the onset of the research period (July 2013) there were four items included in his portfolio. These were two Learning Stories written specifically for Ethan and two photos of his time so far in the under-twos. Joanne was the only teacher who had contributed to Ethan's paper-based portfolio. One of the Learning Stories from Ethan's paper-based portfolio is included below, the other can be found in Appendix Ten.

Table 6.2 Contents of Ethan's paper-based portfolio from February 2013 - June 2013

Learning Stories	Group Learning Stories or montages	Artwork	Other items	Parent/Whānau comment/contribution
2	2	0	0	0

Figure 6.2 An Example of a learning story in Ethan's paper-based portfolio

Ethan

What I have learnt about you:

You are walking confidently around furniture and finding your balance,
You love finger food and are enjoying exploring with the different textures and tastes available to you (eat everything :)
You are chatty and enjoy singing and music,
You are a busy little man who has a passion for life and exploration,
Always on the go and wanting to touch, taste, smell, and explore everything around you.
You find harmony in the sand pit and the outdoors.
You like to sleep on your tummy and have your bottom gently patted while your dozing.
You are super smiley, cheeky and independent in many ways.
You take control of your own learning,
You love to giggle, laugh and you have a ticklish spot under your arm,
You have a love for our bean bag and enjoy rolling around on it.
You are exploring movement with everything, including things with wheels, boxes, toys and your own body.
You are confident and full of life!

Febuary 2013

As there were only two individual Learning Stories in Ethan's paper-based portfolio prior to the implementation of the ePortfolios, there was very little to analyse. Ethan had been at the ECE setting for five months so the addition of only two stories to his paper-based portfolio shows that the contribution by the teachers was infrequent. The Learning Stories that were written showed that the teachers were still getting to know Ethan. The second story does begin to identify some learning but this is not expressly acknowledged. The teacher has provided some thoughts on possibilities for future learning but deep reflection is not apparent.

Joanne's experience with ePortfolios

Joanne was adamant that the most important function of a paper-based portfolio was that it was a personal record of the child's learning journey; this was true too, she supposed, of the ePortfolios. Joanne considered d that it was the formative assessment added to the portfolios which showed this learning journey. Joanne particularly liked writing Learning Stories for children; this was a part of her job that she really valued. Although she was writing a lot of stories for the paper-based portfolios she felt that with the introduction of ePortfolios she was writing more. Joanne said that it was now more exciting to write Learning Stories, though, because parents were responding to the stories she wrote. It was because of this, Joanne said, that relationships and communication with parents and whānau had strengthened with the introduction of the ePortfolios, and she thought that this was particularly the case for extended family that lived in different countries.

Joanne felt that her writing had improved, and so had that of the other teachers at the ECE setting. She thought that their stories were more reflective and detailed and that they complemented each other's more. This also meant, Joanne thought, that teachers were writing more shared stories. They were adding to each other's and were making sure that the stories were not repetitive.

Joanne would like to see an increase in the technology available to children, both in quality and quantity, and she felt that this was necessary for the

children to get the most benefit from their ePortfolios whilst in the ECE setting. Like Sandra, Joanne would choose ePortfolios over paper-based portfolios but strongly felt that there was still an important place for paper-based portfolios within the setting.

Pauline's experience with paper-based portfolios

Pauline liked the accessibility of the ePortfolios. She appreciated that she could look at the ePortfolios at any time and because they were accessible through her phone that they were easier to share with whānau and friends. Educa has designed a phone app specifically for this purpose and both Pauline and her partner had installed this on their smartphones.

As with the paper-based portfolio, neither Pauline nor her partner contributed to the ePortfolio. This was still because of the time it took to do so, but Pauline did acknowledge that it was probably easier to comment on the ePortfolios than it was for their paper-based counterparts. Although she was aware that she could provide access to the ePortfolio to extended family and friends, Pauline hadn't done this. Her extended family all lived out of town so they were still only seeing the children's assessment documentation when they either came to visit or when the family went to visit them. Pauline did not think that they would contribute to the ePortfolios if they were to be given access. This was something, though, that she wanted to organise as she recognised that it would be nice for the wider family to see the children's ePortfolios more often.

As the children were not allowed to use her phone they did not look at their ePortfolios at all when at home. This meant that, unlike with the paper-based portfolios, Pauline was no longer directly looking at the assessment for learning documentation with Ethan and Milly. She would still talk with them about the stories she had read. This meant, though, that in some respects her level of engagement with their learning through portfolios had decreased. Pauline did acknowledge that when she did spend time looking at the ePortfolios with her children they particularly liked revisiting their learning by watching the videos.

If Pauline had to choose between the two documentation systems she would favour the ePortfolios. This was because of ease of access and because it meant that she did not have to remember to take the portfolio home and bring it back again. She also felt that the ePortfolio made it easier to share what was happening at her children's ECE setting with someone else because she always had it with her. Pauline also thought that the ePortfolios would be easier to store later on, when her children had finished at the ECE setting, rather than a bulky paper-based copy.

What Ethan's ePortfolio showed

Ethan had been at the ECE setting for six months when the ePortfolios were introduced. There had been little added to his paper-based portfolio during this time. Once the ePortfolios were introduced there was a great improvement in the number and frequency of Learning Stories added during the year. As with the paper-based portfolios, Ethan's ePortfolio contained no contributions from parents or whānau.

Table 6.3 Contents of Ethan's ePortfolio from July 2013 - June 2014

Learning Stories	Group Learning Stories or montages	Artwork	Videos	Parent/Whānau comment/contribution
24	0	0	3	0

Figure 6.3 An Example of a learning story in Ethan's ePortfolio

Posting

26/07/2013
By:

_____, over the past weeks I have watched your interest in posting objects grow and you have always enjoyed using and exploring with the post-it boxes. I love the way you always sit on the basket of materials before you begin your play. Over the last three days I have seen you posting objects through a hole in a cardboard box.

You drop the magnet through the hole then squat down into the box to find it again. By doing this you are learning about "object permanence (the awareness that objects continue to exist even when they are no longer visible)" (Greenman, Stonehouse and Schweikert 2008, pg.265). You repeat this action again and again, testing these theories in order to make sense of it. Will it ever disappear? Even if I do it one more time?. I extended your interest in posting by providing you with water bottles and a variety of magnets and objects to post into them. This way you could watch the object fall into the hole and to the bottom of the bottle. You enjoyed investigating with these new materials for a sustained period of time with and alongside others. You even found a square post-it box which you then used to post the different objects into.

What learning do I think is happening here?

_____, you are making sense of your world by repeating this action and putting your theories and ideas to the test but doing so "Getting into everything is driven by the child's new mobility and dexterity and by the important realization that the world is rich with objects to explore" (Greenman, Stonehouse and Schweikert 2008, pg.247).

Opportunities and possibilities?

_____ as you continue to explore, learn and make sense of your world I will provide you a variety of ways to do so, using different materials, objects, boxes and things.

Link to Te Whāriki

| EXPLORATION | Children experience an environment where they learn strategies for active exploration, thinking, and reasoning. |
| EXPLORATION | Children experience an environment where they develop working theories for making sense of the natural, social, physical, and material worlds. |

The number of Learning Stories added to Ethan's ePortfolio had increased significantly from what was included in his paper-based portfolio. During the data collection period there were 24 Learning Stories added, compared with only two in the five months prior. Three videos were included which further highlighted Ethan's learning. Changes in the way the teachers were writing the stories were evident. Links were being made to the early childhood curriculum, *Te Whāriki*, and to other research and theory. The teachers were identifying what learning was happening and were then making plans for how this learning could be expanded. As with Ethan's paper-based portfolios, however, there were no contributions from parents or whānau in his ePortfolio.

6.3 Case study three – Robin, Claire and Jordan

As a child Robin wanted to be a teacher or a police officer but did not consider becoming an early childhood education teacher until she applied to teacher's college. She applied to both primary and early childhood education programmes and was accepted into ECE. She said that she was pleased that the choice of age group was made for her by not being accepted for primary training as she now couldn't imagine doing anything else. Robin had a Diploma of Teaching (ECE) and had been with the trust which this ECE setting is part of for 13 years at the start of the research. She had worked in another of the settings run by the trust before moving to this ECE setting where she has been teaching for ten years. Robin was the key teacher for James and Jordan.

Claire was the mother of Jordan. She had two older children, James, who attended the ECE setting but would soon be starting school and another child who was at school and had not attended this setting. Claire worked full time and was a primary school teacher.

Jordan was nearly four at the onset of the research period. He was in the over-twos section of the setting, had been attending for just over a year, and was at the setting full time.

Robin's experience with paper-based portfolios

Recording aspects of children's learning and development was an exciting prospect for Robin. She liked to share this excitement with parents and whānau and would often do so before a story was even written and included in a child's paper-based portfolio. However, Robin also noted that the writing was hard for her, particularly typing Learning Stories up ready to go into the children's portfolios. This was the main barrier to regular contribution and even though she was receiving the same two hours non-contact time per week as the other teachers to fulfil this aspect of her job, she was only able to complete one or two stories in this time.

Robin felt that the paper-based portfolios were valuable artefacts for several reasons. They were extremely useful to the teachers for reflecting on a child's learning and development as a teaching team. From this reflection they were able to plan for future experiences to enhance or build on this learning and development. Robin also used the paper-based portfolios as a tool to help her write new Learning Stories. She would reflect on what had been written in the past and make links which she could then use to strengthen the story she was currently working on.

Robin thought that the paper-based portfolios were cherished by children and that they felt a sense of ownership of them. For this to be achieved Robin commented that it was essential that the contents of the portfolio were shared with the children. Through this children were revisiting their learning, allowing them to recall, restart and reconnect with past experiences. Interestingly, though, Robin said that she very rarely initiated looking at the portfolios with the children. She was very happy to do this when the children brought their portfolios to her but would not actively initiate this revisiting herself.

Robin acknowledged the value the paper-based portfolios could have as a tool to engage parents and whānau with their young children's learning and

development. Robin said that she regularly saw children take their portfolios home and bring them back again. She imagined that the stories were being read by the parents and whānau when the portfolios went home. However Robin noted the lack of physical contributions made by parents and whānau to their children's paper-based portfolios. In the past Robin had tried to encourage parents and whānau to complete 'parent voice' forms to be added to the portfolios, but she acknowledged that she had not done so for a very long time. She said that the lack of contribution from parents and whānau was very simply because they were not aware that they could contribute.

Claire's experience with paper-based portfolios

Claire found the paper-based portfolios to be easily accessible. She liked the fact that she and her children could take them home anytime they wanted to. Claire noted that Jordan and James often knew when there was a new learning story added to their portfolios and this would be the catalyst for wanting to take them home to show Claire, wider family and friends. Claire said that if the paper-based portfolios were not readily accessible then she would be less inclined to seek them out. Although Claire noted the lack of notifications of new stories as a downside of paper-based portfolios, she did admit that she was usually aware that something new had been added.

Claire used the stories in the portfolios as bedtime stories when the portfolios were at home. This allowed her to find out what James and Jordan had been doing at the setting and also let them tell her more about what had been going on. The stories were a conversation starter for Claire and her children.

Claire did not contribute to the paper-based portfolios. She considered that there was not enough space to do so. The stories took up most of the space and Claire did not want to "muck up their folders". She also did not contribute because of lack of time. As she was always in a rush when she came to the ECE setting she did not think that she had enough time to actually write something that would add to the portfolio. Claire did feel, however, that she and other

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members of her family verbally contributed to the children's learning and that the teachers could add these conversations to the stories in the paper-based portfolios.

Claire felt that the paper-based portfolios aided in children's learning because they captured their experiences. James and Jordan could then build on these experiences through recalling, restarting and reconnecting with their learning with their mother's support. She said that the paper-based portfolios helped parents and whānau to encourage children to build on what they had learnt whilst at ECE.

What Jordan's paper-based portfolio showed

The first entry in Jordan's paper-based portfolio was in December 2012, and was the only documentation added in that year. In 2013 two Learning Stories were added to Jordan's portfolio prior to the implementation of the ePortfolio system. One of these was a group learning story; the other was completed using the ePortfolio template before the system went live. There were no parent or whānau contributions made to Jordan's paper-based portfolio. An example of the formative assessment contained in Jordan's paper-based portfolio is included below (for a further example see Appendix Ten).

Table 6.4 Contents of Jordan's paper-based portfolio from December 2012 - June 2013

Learning Stories	Group Learning Stories or montages	Artwork	Other items	Parent/Whānau comment/contribution
2	1	0	0	0

Figure 6.4 An example of a learning story in Jordan's paper-based portfolio

Trains

Since you and your brother have started �_____ I am now aware of every train that passes on the track across the road as you boys take off as soon as you hear it so you can watch it pass from the front window. You guys also spend a bit of time with our train set.

Today �_____ showed you another way to play and enjoy trains, grab a ladder and see who wants to ride on the trains. As this photo shows, quite a few of you did. Everybody had turns at driving and riding and swapping trains. This photo captures both you and your brother in the drivers seat.

�_____

6 December 2012

Jordan had been at the ECE setting for seven months prior to the implementation of the ePortfolio system. During this time there was very little added to his paper-based portfolio – only two individual stories had been written. As one of these stories was using the new ePortfolio template which the teachers had access to before the system went live, it is not reflective of what was happening for Jordan prior to June 2013. The learning story written for Jordan in December 2012 is very brief. It highlights an interest but it doesn't capture what learning is happening or what future possibilities for extension of this interest there might be. There were no parent or whānau contributions in Jordan's paper-based portfolio.

Robin's experience with ePortfolios

Since the introduction of the ePortfolios Robin said she still felt excited when contributing to them, but if possible she was now even more excited. Robin had increased her contributions of children's formative assessment in the ePortfolios. As she was using the tool more her typing had improved and with continual practice she felt it was only going to get better. Robin was also more motivated to write the stories because she knew that they were going to be seen by a parent or whānau member in a much quicker time-frame.

Robin considered that the videos enabled her and her colleagues to have a deeper insight into a child's learning experience. Interestingly, for Robin, the ability to include videos benefited herself as a teacher and a member of a diverse teaching team, rather than the children. Robin felt that she taught in a different way to most of the members of the team. She was focussed on risk and challenge. The value of this for children's learning and development could sometimes be hard for her to articulate to others in the team. But because the teachers were now reviewing each other's stories more and making links between their teaching and that of others, Robin felt that her teaching and what she was trying to achieve was being affirmed by the rest of the teachers. Robin was also using the videos in a different way – narrating the story as it unfolded rather than writing it down.

She noted that the teaching team's planning had improved with the introduction of ePortfolios as the stories built on each other, rather than repeating events. Robin felt that parents and whānau had become much more visible in their children's learning through the comments made in the ePortfolios and through the deeper discussions about what was happening at the ECE setting. Parents and whānau had more insight into what was happening and why it was happening through the ePortfolios. If she had to choose a documentation system it would be ePortfolios. But Robin did not want to do this. She felt that the paper-based portfolios provided richness to children's recalling, restarting and reconnecting with their learning.

Claire's experience with ePortfolios

Claire felt the ePortfolios were even more accessible than the paper-based portfolios. The ePortfolios allowed her to access the contents whenever and wherever she liked. She liked that she was sent an alert email whenever something new was added, particularly because Jordan often did not remember to tell her when something new was in his paper-based portfolio. Since the introduction of the ePortfolios Claire had hardly collected Jordan's paper-based portfolio to take it home. She only looked at it with Jordan when he showed an interest. This was a change as previously Claire had made sure the paper-based portfolios went home regularly.

Claire thought that the ePortfolios still allowed Jordan to revisit his learning experiences, just as the paper-based portfolios had done, and that the inclusion of videos added an extra dimension to this. Claire felt that looking at a video was different to looking at a picture and noted that Jordan would replay his videos again and again.

Contributing to the ePortfolios had become a regular occurrence for Claire, whereas she never contributed to the paper-based portfolios. Claire made sure that she discussed her comments with Jordan so that he could make links between what he was doing at home and what he was doing at the ECE setting. Claire also liked that she received information from the ECE setting

through the ePortfolio platform and that she could respond to messages. She felt that this was a good way of communicating with the ECE setting.

The number and frequency of Learning Stories from the teachers had increased, Claire thought. She added that although the Learning Stories now all followed the same format the individual voice of the teachers could still be heard. Although she would choose ePortfolios over paper-based portfolios as an adult, mainly because of their accessibility and convenience, Claire felt strongly that paper-based portfolios must also remain. For the children, she felt, the paper-based portfolios were something tangible that they could look at and call their own.

What Jordan's ePortfolio showed

The number and frequency of Learning Stories in Jordan's ePortfolio had increased dramatically compared with those in his paper-based portfolio. Jordan's ePortfolio contained 42 Learning Stories in the period from the 1st of July 2013 to the 30th of June 2014. Ten of these Learning Stories contained videos. There had been no parent or whānau contribution in Jordan's paper-based portfolio, but his mother had begun to comment in his ePortfolio.

Table 6.5 Contents of Jordan's ePortfolio from July 2013 - June 2014

Learning Stories	Group Learning Stories or montages	Artwork	Videos	Parent/Whānau comment/contribution
42	0	0	10	2

Figure 6.5 An example of a learning story in Jordan's ePortfolio

Working Theory about Earthquakes

Created on:**4/08/2013 6:33:53 p.m.**By

Today (31/7/13) joined me on the couch for a story with a small group of children including . added to our conversations that her step-mum had been on a trip to Wellington for her work. I told the group that I had been down to Wellington recently and we began to discuss all the things we knew about Wellington. added that his mum had told him about the earthquakes. I listened on as explained to us all about why we get earthquakes and what happens. I sat and listened carefully to explanation and then as an after thought I thought, I have to video this, and I did, but I wish I had captured it the first time around.

I notice and have a good knowledge of current events. On Monday was explaining to me that picture was of a helicopter that had crashed and had been in the news. told me that they used the tablet to see if they could find out more about the story.

What learning do I think is happening here?

is practising to communicate in small groups, in this example he listened carefully to what was saying, then added to the conversation his knowledge very clearly and concisely. I could tell by my positive response that was very proud that he could contribute to group, and this is fostering his developing sense of self.

Opportunities and possibilities?

I would like to find some books to revisit working theories with him over the next week.

Comments:

The number of learning stories in Jordan's ePortfolio had increased considerably compared with what was in his paper-based portfolio. Over the 12 month data collection period a total of 42 learning stories had been added to Jordan's ePortfolio. This was a remarkable increase. Ten of Jordan's learning stories included videos and near the end of the data collection period his mother had begun making comments on the stories. The teachers' formative assessment had also changed. The stories in Jordan's ePortfolio were richer than those in his paper-based portfolio. They contained more depth and reflection. The stories not only highlighted an interest but also what learning was happening for Jordan. More often than not the stories included possibilities for future expansion of Jordan's interests and strengths. His ePortfolio also contained a wonderful learning story written by a third year initial teacher education student. Students were adding to the ePortfolios alongside the qualified teachers which again added another dimension, this was not something that was happening in the paper-based portfolios.

6.4 Case study four – Stephanie, Jasmine and Amelia

Stephanie has been at the ECE setting for five years. For the last three she has been the head teacher in the under-twos section. Her background in ECE began in playcentre with her own four children. Stephanie was heavily involved in playcentre for 15 years and during this time completed the playcentre qualifications. After all of her children had finished at playcentre Stephanie needed to get a full-time job, and this was when she looked into becoming an early childhood education teacher. Stephanie was able to cross-credit a significant portion of her playcentre qualifications and completed her diploma of teaching through distance education in a year. Stephanie was Amelia's key teacher.

Jasmine was the parent of Amelia and Jack. She also had a six year old at school. She had enrolled Amelia and Jack in the ECE setting when she returned to full-time work after three months of maternity leave.

Amelia was six months old and was in the under-twos section of the ECE setting. Her brother Jack was three and spent his time in the over-twos. The children were very new to the setting; they had been attending for only three months at the start of the research. Amelia is the focus of this case study.

Stephanie's experience with paper-based portfolios

Stephanie enjoyed writing Learning Stories for the paper-based portfolios; however, she only did so for her key children. However, Stephanie did review the paper-based portfolios of all of the children in the under-twos section on occasion. Stephanie considered that the Learning Stories contained in the paper-based portfolios showed a picture of the learning the children had been involved in and that it was nice to have them all in one place. This helped her to revisit children's learning and sometimes prompted her to re-introduce an experience or event.

During her time in the under-twos section of the ECE setting Stephanie had seen movement in the placement of the paper-based portfolios. In the past the children had not been able to access them by themselves. This had changed and the paper-based portfolios were now available to the children (at their level) for "ninety percent of the time".

Stephanie did not really look at the paper-based portfolios with parents and whānau and she felt that only a small percentage actually engaged with the documentation at all. She wasn't sure that parents and whānau actually understood the benefits that could come from engaging with their children's learning in this way.

Stephanie thought that the paper-based portfolios were important for accountability. This was for government bodies like the Education Review Office and for teachers. She felt that they also helped provide quality learning experiences for children and that they were good for transition between the under-twos and over-twos. Finally, Stephanie thought that the paper-based portfolios could help children learn, but she hadn't seen this in action yet.

Jasmine's experience with paper-based portfolios

Jasmine and her family were very new to the ECE setting and her experience with paper-based portfolios was limited. She valued the portfolios as way of sharing what her children had been doing at the ECE setting with her partner, extended family and friends. This was particularly important to Jasmine as all of her family lived out of town.

Although Jasmine spent time looking at her children's paper-based portfolios with them when they came home, she admitted that she never did this in the ECE setting. She did not engage in conversations with the teachers about the contents either. However, this was simply because she did not have time to do so.

Jasmine and her partner had contributed photos and comments on occasion to Jack's portfolio but were yet to do so for Amelia. Jasmine thought that the paper-based portfolios were a good tool for settling children into a new setting; this had been particularly important for Jack as he did not cope well with change.

Although Jasmine thought that children learnt by watching and doing she did not think that paper-based portfolios could support this. She did, however, after discussion, agree that the portfolios allowed revisiting of learning, which subsequently provides opportunities for children to recall, restart or reconnect with previous learning experiences.

What Amelia's paper-based portfolio showed

Amelia's paper-based portfolio was started in April 2013, only three months before the implementation of the ePortfolios. During this time two Learning Stories and one group photo montage were added to her portfolio. No parent or whānau contributions were included in her paper-based portfolio.

Table 6.6 Contents of Amelia's paper-based portfolio from April 2013 - June 2013

Learning Stories	Group Learning Stories or montages	Artwork	Other items	Parent/Whānau comment/contribution
2	1	0	0	0

Figure 6.6 An example of a learning story in Amelia's paper-based portfolio

Welcome to ▢▢

▢▢

▢, in the short time you have been here you have already met some new faces and explored as much as I think you can handle for one week! :) Phew!!

Here are some photos to show all your whanau what you have been up to in your first week. During your time here you will learn so much about yourself and your world. And we will learn lots about you too!

You have such an exciting learning journey ahead of you ▢! As your primary carer I look forward to building a close relationship with you so you can comfortably and competently explore your world here! There is so much learning to be done—bring it on!!

Lots and lots of love,
your special friend ▢ xxx

Date: 29th April 2013   Kaiako: ▢

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The stories in Amelia's portfolio are about her wellbeing and belonging in the ECE setting. They are welcoming her and defining the routines necessary to provide the day to day care she needs whilst at the ECE setting. The stories don't identify any learning or further opportunities for learning.

Stephanie's experience with ePortfolios

Stephanie was very enthusiastic about the ePortfolio system. She was completing more Learning Stories and was contributing to more children's ePortfolios. Stephanie considered that the ePortfolio suited her learning style and the way she worked. The ePortfolio system also made it easier for Stephanie to revisit children's learning. She was able to see what other teachers were writing and could use this information to inform her own stories.

The teachers' formative assessments had changed too, Stephanie thought. She observed that they were adding more theory and that the stories had become more thoughtful. This could be partly attributed, she said, to the professional development they had been doing as well as the introduction of the ePortfolios.

The way parents and whānau were engaging with their children's learning had also changed, in Stephanie's view. The verbal engagement that had been happening with the paper-based portfolios was still there but the written comments added a different dimension. She could use these comments to make links between what was happening at home and what was happening in the ECE setting.

The teaching team in the under-twos section was not using the tablets to view the children's ePortfolios with them but Stephanie felt that this was definitely something that they would investigate in the future.

Stephanie would definitely choose ePortfolios over paper-based portfolios if she had to. She claimed that the introduction of ePortfolios was the

best thing the ECE setting had ever done in terms of documenting children's learning and engaging with parents and whānau.

Jasmine's experience of ePortfolios

Jasmine really treasured the ePortfolios. She could see numerous benefits that were not present when paper-based portfolios were the only option. Jasmine thought that sharing the ePortfolios with the children's grandparents meant that they were able to see what was happening for Amelia and Jack in real time. The engagement levels of herself, her partner and the children's grandparents had increased with the implementation of ePortfolios. Regular comments were being made about the children's learning experiences and links were being made to what happened at home. This affirmed the choice that Jasmine and her partner had made to send their children to an ECE setting.

Jasmine particularly valued the videos. Their inclusion meant that Jasmine was able to physically see what her children were doing at the ECE setting and what they were capable of. This meant that the choices that were made for the children in regard to the continuing of their learning at home had changed.

Jasmine looked at the ePortfolios with Amelia and Jack regularly. She did this on the computer on her phone. Jasmine liked that she was able to do this anywhere. She admitted that they no longer accessed the paper-based portfolios as there was just no need to do so.

Jasmine was considering using the ePortfolio as a tool to aid in Jack's transition to school. If she had to choose a documentation system for her children's formative assessment ePortfolios would win hands down. The accessibility, the ability to comment and the videos were the main reasons for this.

What Amelia's ePortfolio showed

In contrast to Amelia's paper-based portfolio her ePortfolio was full of Learning Stories. Thirty-one Learning Stories had been added between July 2013

and June 2014. Seven of the Learning Stories included videos and several had comments made by parents and whānau. Both of Amelia's parents had made comments as well as three different grandparents.

Table 6.7 Contents of Amelia's ePortfolio from July 2013 - June 2014

Learning Stories	Group Learning Stories or montages	Artwork	Videos	Parent/Whānau comment/contribution
31	0	0	7	9

Figure 6.7 An example of a learning story in Amelia's ePortfolio

Chatter, chatter, roll, roll!

31/07/2013
By: ▢

▢, you are becoming a very busy girl, rolling here and there, kicking your legs and waving your arms all about. You are chatting and making several noises thoughout each day. Your smile never fades and as I spend time with you I am learning about your needs and during your play I am learning about your interests and cheeky personality. Your favorite thing to do at the moment is hide yourself away under a cloth or your play mat. I've noticed this about you and often engage with you by dangling a peice of material above you and by also allowing you to interact with it. I recognise that this brings you pleasure and excitment, stimulating your senses and delighting them! I wonder if its the feel of the cloth that you find comforting as you hide away and snuggle in? or are you enjoying a game of peek-a-

boo? Often once you have rolled onto your tummy you lay your head down on the cloth and seem relaxed and contented. I'm enjoying spending time with you ▢ and getting to know you well. I love interacting with you in these ways as I see your joy and discovery unfold.

What learning do I think is happening here?

"Every experience that a baby has occurs within a physical experience, a feeling state and, generally, information from the environment that both inspires the moment and i forms it" (Wittmer & Petersen, 2013, pg.120). Allowing you time to engage with soft, comforting, stimulating materials supports your sense of belonging here and allows you time to explore with your body and surroundings as we engage in meaningful interactions.

Opportunities and possibilities?

Continuing to evaluate the environment and resources avaliable to you will ensure you have all the time, resources and space you need to move freely, discover and learn with and alongside myself, other teachers and your peers.

Link to Te Whāriki

WELL-BEING	Children experience an environment where their emotional well-being is nurtured.
EXPLORATION	Children experience an environment where they gain confidence in and control of their bodies.
EXPLORATION	Children experience an environment where they develop working theories for making sense of the natural, social, physical, and material worlds.

The learning stories in Amelia's ePortfolio had progressed from ones about her belonging and wellbeing, as documented in her paper-based portfolio, to stories about her interests, strengths and development. The stories in the ePortfolio include links to literature, including *Te Whāriki*, and are usually more thoughtfully written. Some of the stories describe learning moments but these are the ones that particularly capture development and were what Amelia's grandparents commented on the most (see '*Mastering the stairs*' above). Thirty-one learning stories had been added to Amelia's portfolio from July 2013 – June 2014 and several of these had comments from her parents and/or grandparents. Videos, which were very important to Jasmine, were included in seven of Amelia's learning stories.

6.5 Case study five – Leslie, Megan and Reece

Leslie began her career in the early childhood field when she decided to study to become a nanny. About half through the training programme she decided she would really like to be a teacher. During this time, however, she became pregnant so decided to finish the nanny programme. She then stayed at home for two years with her daughter. Leslie decided to use her nanny certificate to cross-credit into a diploma programme, which she completed two and a half years later. She had since upgraded her qualification to a Bachelor of Teaching (ECE). At the end of her diploma study Leslie won a position at the ECE setting where this research was located. She had been working there for seven years. She worked in the over-twos area and is the key teacher for Reece and her brother Leo.

Megan was the mother of Reece and Leo. She worked four days a week so the children are home with her one day a week.

At the start of the research period Reece was four years old. She had been attending the setting for three days per week since she was 11 months old. Leo was two and he started attending when he was nine months old. At that stage Reece and Leo went full time, attending for five days a week. At the time of the study they were attending for four days and spent one day at home. They were both in the over-twos area.

Leslie's experience with paper-based portfolios

It was evident that Leslie placed great importance on the paper-based portfolios and their benefits for children's learning journeys. She felt confident in her ability to contribute worthwhile documentation which was thoughtful and rich. Her documentation included Learning Stories and artwork, which was sometimes annotated. She also referred to theory and research in her writing. Leslie said that the formative assessment documentation contained in the paper-based portfolios demonstrated everything that they were trying to achieve at the ECE setting in terms of teaching and learning. Leslie said that she contributed

formative assessment documentation to the paper-based portfolios of all of the children in the over-twos section of the ECE setting.

She considered that the value of paper-based portfolios for children could not be underestimated. She frequently witnessed children accessing their portfolios to look at on their own or to share with peers and teachers. She encouraged parents and whānau to be part of their children's learning journeys and included their aspirations, commendations and goals within her documentation. It was important for Leslie to share the contents of the paper-based portfolios with parents and whānau, particularly families of her key children, and she tried to do this on a regular basis.

Leslie supposed that children learn through play, interactions and exploration and that by including what teachers noticed, their recognition of learning and how they responded in formative assessment documentation that paper-based portfolios played an important part in this learning.

Megan's experience with paper-based portfolios

Megan liked the fact that she and her partner were able to be part of their children's lives at the ECE setting through the paper-based portfolios. These allowed them to see what Reece and Leo had been doing at the ECE setting and also their growth and development. Megan noted that the paper-based portfolios were not added to consistently. There would be long gaps followed by a flurry of additions. She attributed this to the busyness of the teachers and said that she would rather that they were spending time with her children anyway.

The paper-based portfolios came home only when this was initiated by Reece or Leo. This wasn't a priority for Megan and was not something she thought about doing. When the portfolios were at home they were used as prompts for conversations or shared with the children's grandparents.

Megan could identify stories in the paper-based portfolios that were her favourites, although she couldn't identify what she thought would be her children's favourite story.

Megan could see how the paper-based portfolio could play a role in her children's learning journey. The formative assessment documentation often identified the children's strengths and this was something they could build on at home. Megan also felt that the paper-based portfolios assisted in fostering relationships with others who were not part of their immediate family group.

What Reece's paper-based portfolio showed

Reece's paper-based portfolio was started in February 2011, with ten learning stories being added during this year. There was also one parent contribution added in 2011. In 2012 11 Learning Stories were added to Reece's paper-based portfolio as well as five pieces of artwork. A child's voice written by a teacher was also included in 2012 and included photos supplied by the family. Prior to the implementation of the ePortfolio system in 2013, four Learning Stories were added. A set of family holiday photos and captions put together by a teacher was also included in 2013.

Table 6.8 Contents of Reece's paper-based portfolio from February 2011 - June 2013
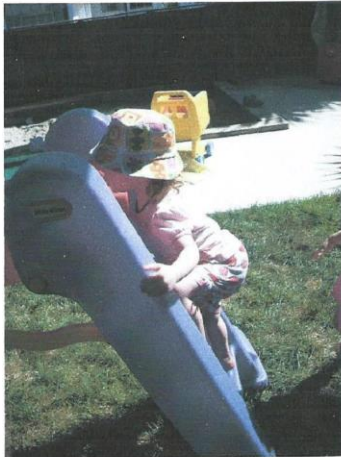
Learning Stories	Group Learning Stories or montages	Artwork	Other items (child's voice)	Parent comment/contribution
26	0	5	1	3

Figure 6.8 An example of a learning story in Reece's paper-based portfolio
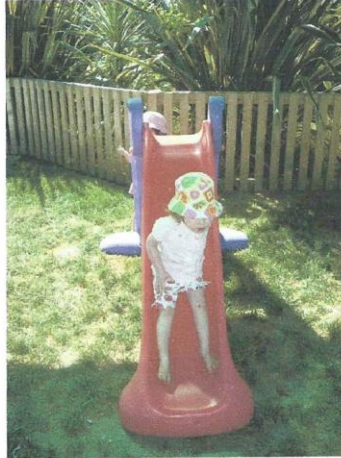
In the two and a half years that Reece had been attending the ECE setting prior to the implementation of ePortfolios, 25 Learning Stories had been added to her paper-based portfolio. The Learning Stories had no set pattern; each teacher wrote differently and there was usually no inclusion of future possibilities or opportunities. Some of the Learning Stories identified what learning was happening but this wasn't often responded to by the teachers. On

occasion, theory and research had been incorporated in the story by the teachers but this was paraphrased and not referenced. Unlike the other paper-based portfolios analysed for these case studies, there were some parent contributions in Reece's paper-based portfolio. Megan had completed a parent contribution about Reece's transition from the under-twos to the over-twos, although this wasn't responded to by the teachers. The family had also supplied photos on two occasions which a teacher had put together and added to the portfolio – once as a child's voice and once with captions she had added. Artwork had been included in Reece's paper-based portfolio but it wasn't clear if this was completed at home or at the ECE setting as no context was provided.

Leslie's experience with ePortfolios

Leslie had continued to contribute to the learning documentation of all children in the over-twos section of the ECE setting since the introduction of ePortfolios. Her confidence had increased over time and she felt that she was writing better Learning Stories than she had for the paper-based portfolios. The template provided by Educa assisted in this and she felt that by using this format she was able to make the children's learning more visible.

Leslie was often writing Learning Stories alongside the children now. This meant that their voice was truly captured as the learning was happening. Discussions about children's learning between the teachers had also increased and stories were becoming deeper and richer as more teachers contributed. Indeed, Leslie thought that the teachers' formative assessment practices had changed. They were now writing more stories for more children, not just their key children. Theory and research was also being added to the Learning Stories with more thought.

When Leslie wrote a new learning story she would tend to tell the parents and whānau about it. This hadn't changed with the introduction of the ePortfolios. However, Leslie thought that her writing style had changed. She was now more focussed on how she could write a story so that it would be of interest to a parent or whānau member, rather than writing them more for the

children as she had done in the past. This meant that she was now having a richer written dialogue with parents and whānau through the ePortfolios which supported the child's learning. Indeed, Leslie had seen a marked increase in parent and whānau contributions in the ePortfolios, particularly from grandparents.

Leslie was adamant that both paper-based portfolios and ePortfolios should remain in use at the ECE setting. The ePortfolios were her choice for adults due to ease of access, ability to reflect on a child's learning over time and increased parent and whānau engagement. Paper-based portfolios must remain, Leslie thought, for the children. Children still frequently accessed their paper-based portfolios and they were special to them.

Megan's experience with ePortfolios

Megan preferred the ePortfolio system over the paper-based system. She liked the ease of access and felt that the teachers' formative assessment practices had improved. She perceived that there was a significant increase in parent and whānau involvement in children's learning through the ePortfolios. A community of practice was very evident in this case study. Although Megan thought the teachers were not all contributing to Reece's ePortfolio, on review the majority were.

Megan could see changes in the way the teachers wrote. Their stories contained more information and identified learning more often. Just as with the paper-based portfolios, Megan felt that the ePortfolios supported children's learning as she was able to share in their strengths and interests and support these at home. She was, however, more involved with this through the ePortfolios than she had been with the paper-based portfolios.

Although Megan acknowledged that her children still liked to look at the paper-based portfolios she acknowledged that their interest in them had decreased. This was because they were carbon copies of what they had already seen in their ePortfolios. Megan suggested that the paper-based portfolios could

become a repository for other things such as artwork and handwritten messages from the teachers. Megan would definitely choose ePortfolios as a documentation platform if she had to pick one or the other.

What Reece's ePortfolio showed

Since the introduction of the ePortfolios in July 2013, up until she went to school in April 2014, 48 Learning Stories were added to Reece's ePortfolio. Alongside the Learning Stories written by the teachers there was a learning moment contributed by Reece's mother and another learning moment contributed by her grandmother. Nine of the Learning Stories written for Reece contained videos of her experiences; one also contained a UTube clip. Reece's parents had commented eight times and her grandmother had made 22 comments. Three extra comments by teachers were included following comments made by Reece's family.

Table 6.9 Contents of Reece's ePortfolio from July 2013 - May 2014

Learning Stories	Group Learning Stories or montages	Artwork	Videos	Parent/Whānau comment/contribution
48	0	0	9	32

Figure 6.9 An example of a learning story in Reece's ePortfolio

The Wheat Grass Juicer

Created on:**4/07/2013 7:51:05 p.m.**By:

When I am having a challenging day I often go to my happy place (the Op shop) in my lunch hour and emerge with a smile because I have found a piece of treasure. Today I emerged with a wheat grass juicer. Secretly I had been looking for a mincer for a very long time and wondered if this would be the closest thing to it.

This juicer came in pieces in a box, and it took some trial and error to work out how we could use it. Firstly we tried pieces of apple, but they were not fine enough, we wanted something that we could drink and we decided that juicing grass was a bit too risky (we even goggled it).   had a cabbage, can you juice cabbage?   worked away industrially turning the handle to crush the cabbage leaves until she got enough juice to drink. The liquid was very green (that means healthy right?) and   was very proud of the results of her mahi (work).

Is   going to drink this I wondered. I volunteered to have some too if she would share some with me, and I tentatively sipped mine. Yes, it tasted like cabbage and was surprising refreshing.   drank hers too and she too liked the taste. What else could we juice we wondered. Carrot! We discovered that we had to grate the carrot first, and we only got the tiniest amount of juice - but   drank this too!

When we told Dad at the end of the day about our juicing he told me that   is really good at trying new things. Today I must say I saw a very adventurous side of   .

What learning do I think is happening here?

         and I had such fun exploring this new piece of equipment. How do we put it together, an exercise in trial and error when we could not produce juice and then we found another spare piece in the box. We then tried to follow the instructions on the box, but they were confusing, so we drew on the knowledge of learning companions around us, in this case   . This was a great example of learners co-constructing ideas together.   was comfortable in the fact that we both did not know what we were doing, but that we could work through this together.

Once we had the juice to drink even I was unsure about drinking it. But I was encouraged by ▮▮▮▮ bravery to try something new.

Opportunities and possibilities?

I wonder if we could grow some wheat grass, this would be another new taste sensation for us.

Comments:

This is a very cool story ▮▮▮▮. It is awesome to see the kids experimenting with new and interesting things.

Written By: ▮▮▮▮▮▮▮▮▮▮▮▮   2/08/2013 9:28:16 p.m.

In the ten month period that Reece's ePortfolio was active 48 learning stories were added by the teachers. This was a very significant increase on the 25 learning stories added to her paper-based portfolio in the previous two and a half years. Documentation was consistently added to Reece's ePortfolio, which was something that Megan had noticed was not occurring with her paper-based portfolio. The way the teachers were documenting the learning had also changed. They were identifying what learning was happening more frequently and their writing had become more reflective, particularly in the way they used literature to support their thoughts. The learning stories did not just "end" as they had in the paper-based portfolios. They were extended on and added to from subsequent learning moments.

Reece's ePortfolio showed a substantial growth in parent and whānau engagement. The comments and contributions made by Reece's parents and her Granny B showed a community of practice in action. Megan, her partner and Granny B were involved in Reece's learning and Granny B, in particular, made significant contributions, even sending a resource to support Reece's interest to the ECE setting.

6.6 Case study six – Georgina, Sarah and Kate

Georgina was a teacher in the over-twos section of the ECE setting. She completed a Graduate Diploma in Teaching (ECE) at University over a two year

period and began working in the sector in 2011. Her first job as an early childhood education teacher was with this ECE setting, so she had been there for just over two years. Georgina had a background in Playcentre where she had attended alongside her children. She was the key teacher for both Johnny and Kate.

Sarah was employed by the umbrella organisation that this ECE setting was part of, and was based in the offices next door to the setting. She worked full time.

At the beginning of this research Johnny was four years old, and his sister Kate was two. Johnny had been attending the ECE setting since he was six months old, mostly full time. His hours were reduced to part time when Kate was born but became full time again when both he and Kate returned to the setting when she was one. Kate had just moved into the over-twos section of the setting at the beginning of the research period. She is the focus of this case study.

Georgina's experience with paper-based portfolios

Being relatively new to teaching, Georgina was still finding out about herself as a teacher. She enjoyed writing Learning Stories to add to the children's paper-based portfolios, but because she needed a lot of time to think about what she was writing she needed more time than what she was allocated at the ECE setting (two hours per week non-contact time). This meant that she often worked on Learning Stories at home.

Georgina felt that the children's paper-based portfolios were valuable to support their learning journeys. Revisiting children's learning with them through the paper-based portfolios meant that Georgina could see their growth and development over time. She was also able to explore children's interests further through interaction with the paper-based portfolios alongside them. However, this was something that Georgina said that she did not do often enough, and the revisiting wasn't usually initiated by her.

A particular benefit of the paper-based portfolios that Georgina shared was the useful role they had when helping a child transition into the ECE setting. This was particularly relevant for her key children as she used the paper-based portfolios to help them develop a sense of belonging at the ECE setting. In terms of sharing the contents of the paper-based portfolios with parents and whānau, Georgina only did this during the transition period for new children.

Georgina valued the paper-based portfolios as an assessment and planning tool. They helped her connect with families to show what learning was happening for their children while they were at the ECE setting. The paper-based portfolios also allowed Georgina to show parents and whānau what learning was valued by the ECE setting, such as dispositional learning; furthermore it acted as a good communication tool. Georgina used the paper-based portfolios to inform her planning for children's learning experiences. The formative assessment contained in the paper-based portfolios helped Georgina to plan for "where to next". This was as an area that Georgina thought that she was still learning about. She said that she did not learn much about planning and assessment in her graduate diploma qualification so she was still working out how best to do this.

Sarah's experience with paper-based portfolios

Sarah valued the paper-based portfolios as they allowed her and her husband to share in what the children were doing at the ECE setting. She enjoyed the fact that the Learning Stories in the paper-based portfolios often showed interests that the children had at the ECE setting that were different to those they showed at home.

Sarah and her husband spent time looking at the paper-based portfolios with Kate and Johnny at home, but never looked at them at the ECE setting because of time constraints. As their extended family lived out of town Sarah appreciated being able to use the paper-based portfolios to show them what Kate and Johnny had been doing at the ECE setting when they came to visit or

when the family visited them. None of the extended family contributed to the paper-based portfolios and although Sarah did not contribute anything tangible she felt that her verbal contributions were included by the teachers.

Sarah was able to recall a favourite learning story that she had in Kate's portfolio. She did not have a particular favourite for Johnny. She was also able to identify the children's favourite Learning Stories. Sarah liked the way the Learning Stories in Kate's paper-based portfolio were written. She felt that they were written from Kate's point of view and that they showed Kate enjoying the experiences provided for her at the ECE setting.

Sarah considered that children learnt through their interests and that they needed support to follow these interests through. She felt that the paper-based portfolio played an important role in the children's learning as through revisiting the Learning Stories Johnny and Kate could restart an interest or experience.

Sarah's older son Johnny would be leaving the ECE setting to start school early the following year. She had thought about using the paper-based portfolio to help his transition to school. She thought that the New Entrants teacher might be interested in looking at the paper-based portfolio so that she could get to know something about Johnny before he started school. But Sarah wasn't sure that this would be well received. She thought that she would take it but if it wasn't well received she wouldn't force the issue.

What Kate's paper-based portfolio showed

Kate's paper-based portfolio was started in January 2012 when she began in the under-twos section of the ECE setting. Sixteen Learning Stories were added to her paper-based portfolio in 2012, along with one piece of artwork. Two Learning Stories were added in 2013 prior to the ePortfolio implementation.

Table 6.10 Contents of Kate's paper-based portfolio from January 2012 - June 2013

Learning Stories	Group Learning Stories or montages	Artwork	Other items	Parent/Whānau comment/contribution
16	0	1	0	0

Figure 6.10 An example of a learning story in Kate's paper-based portfolio

I am getting to know you really well [   ]. Yay! You are very settled in the Under Two's—I can tell by the way you confidently move around the Under Two's environment interacting with everything as you go :)
You are a confident and capable explorer, you particularly enjoy getting amongst our 'heuristic play' box, and painting and messy play interactions.
You enjoy the company of others however you also are quite happy to engage in some solitary play... xx

I feel like you and I have quite a strong relationship at the moment. I am getting to know you well and your different temperaments like when you are hungry, hurt, sad, full of beans, tired and teething... :) You love music and movement and I find that this is one way that I can really connect with you. You love to laugh and smile and you love cuddles! When I arrive in the morning you like to start the day with a BIG cuddle—This brings a huge smile to my dial as it does for you. You brighten up my day [   ], Thank you xx :)

Lots of love, your friend [   ] xxx

In the year and a half that Kate had been at the ECE setting 18 Learning Stories had been added to her paper-based portfolio. The majority (16) of these had been added in 2012. In the six months prior to the implementation of the ePortfolios only two Learning Stories had been added to the paper-based portfolio. This shows a significant decrease in the number and frequency of additions to Kate's paper-based portfolio. Each teacher who had contributed to Kate's paper-based portfolio had written the stories differently, although they were all written to highlight Kate's strengths and interests. However, very few of the stories identified ways to extend Kate's learning experiences, or indeed actually clearly identified what learning was occurring. Some reference was made to theory and research within the text of the stories but this was not acknowledged or attributed to another source.

Georgina's experience with ePortfolios

Georgina's feelings about contributing to portfolios had changed in a positive way during the year. She valued the ePortfolio system and was really enjoying making contributions. Although she was still spending a lot of her own time writing the Learning Stories she did not resent this because her enjoyment had increased so much. In fact, Georgina liked the system so much she brought her own iPad to use at the ECE setting.

Georgina purported that her practice as a teacher had changed significantly with the introduction of ePortfolios. She now understood formative assessment better and the teaching team were having more discussions about this which further supported her understanding. She was involving the children in their Learning Stories since the introduction of ePortfolios. She would include their voice and often they made the decisions about which photos they wanted included.

Georgina said that the response to the ePortfolios by parents and whānau had been "amazing", particularly in terms of making physical contributions to their children's ePortfolios. She noted that parents and whānau were commenting on her stories, which affirmed her work, adding their own

stories and putting up photos. The ePortfolios had also increased verbal communication between herself and parents and whānau, Georgina thought. She said that they were talking more about the contents of the ePortfolios than they had done about the paper-based portfolios. Georgina thought that this was because of the interactive nature of the ePortfolios.

Georgina would choose ePortfolios as a documentation platform over paper-based portfolios if she had to make a choice. However, she firmly deemed that paper-based portfolios still had a place and that they were vital to children's learning.

Sarah's experience with ePortfolios

Sarah felt that the ePortfolios allowed her to engage more thoughtfully with her children's learning than the paper-based portfolio did. This was because she was able to explore the contents when she had time and was not rushed.

Sarah said that there had been a change in the teachers' formative assessment practices. Sarah had realised that she sometimes did not like the way the Learning Stories contained in the paper-based portfolios were written. She felt that they contained jargon and this sometimes made them hard to understand. Sarah thought that this had changed with the introduction of ePortfolios. She thought that the teachers were writing their Learning Stories aimed at parents and they were being written better.

Another change for Sarah was the way she was using the ePortfolios with her children, compared to how the paper-based portfolios were used. With the paper-based portfolios Sarah would spend time with Johnny and Kate looking at the Learning Stories and other contents. Sarah was not using the ePortfolios in this way. When asked why she wasn't using the ePortfolios with her children Sarah said that it was because of a technical issue. She felt that the photos were too small and she hadn't worked out how to enlarge them so they were easier for the children to view. She did, however, watch the videos with Johnny and

Kate. Sarah noted, too, that she would talk with her children about the contents of their ePortfolios. She might mention to the children that she had seen a photo of them doing something at the ECE setting and this would be when she understood that she was engaging with their learning. Sarah had made the occasional contribution to the children's ePortfolios in the way of commenting on Learning Stories but she did this very rarely.

However, the ePortfolios had increased the engagement of their extended family in Johnny and Kate's learning. One set of grandparents in particular consistently commented in the ePortfolios. The comments that were made by these grandparents were aimed at the children, rather than the teachers, Sarah said. They would make comments which affirmed what the children had been doing or they would make links to what the children could see and do when they visited. It was because of these comments that Sarah felt the grandparents were engaging with and encouraging Johnny and Kate's learning.

Sarah felt that the contents of the children's portfolios were useful in supporting their transition to school and she had sent Johnny's paper-based portfolio to school with him. Although she had received no feedback from Johnny's New Entrants teacher Sarah thought she might have read the paper-based portfolio as he was doing so well at school. When Kate went to school Sarah thought she would offer her teacher access to Kate's ePortfolio. She supposed it might be, at the very least, a good conversation starter.

Sarah strongly felt that both forms of documentation should remain at the ECE setting. She felt that the ePortfolios had a lot of benefits for parents and whānau but also that the paper-based portfolios were still very important for children.

What Kate's ePortfolio showed

In the year and a half that Kate had been attending the ECE setting prior to the introduction of the ePortfolios 18 Learning Stories and one piece of artwork had been added to her paper-based portfolio. Since the introduction of

ePortfolios this had increased dramatically. From July 2013 to June 2014 32 Learning Stories had been added to her ePortfolio. The Learning Stories contained one comment from Sarah and seven comments from Kate's grandparents.

Table 6.11 Contents of Kate's ePortfolio from July 2013 - June 2014

Learning Stories	Group Learning Stories or montages	Artwork	Videos	Parent/Whānau comment/contribution
32	0	0	7	8

Figure 6.11 An example of a learning story in Kate's ePortfolio

Messy Play

21/08/2013

By: ▢

▢, when I look through your portfolio I notice something that we haven't documented yet which is an important part of your play. This is about your love for messy play! When you are involved in messy play it is not only about your interest in swooshing it, tipping it, pouring it, feeling it, playing with it, it also becomes about your body. I often turn around and see the messy play being applied to your face as you become totally immersed in it. So quickly that I hesitate to offer you an apron in case it interrupts your exploration.

What learning do I think is happening here?

🙂 _____, I wonder what your interactions with messy play means for you? I feel that this is a natural curiosity for you as you actively explore through all of your senses. I notice that there is a fascination with the feeling of it on your lips and wonder if this is about the taste? Or is it too about your developing awareness of your body, as you intentionally work on different parts of your face.

When I look through literature seeking to understand the links between child development and messy play it talks about the experience soaking in through the senses, which is then wired into your brain. In the book "Magic Places" by Penny Brownlee it talks about this becoming the basis of your creativity.

Opportunities and possibilities?

Messy play often can create conflict between adults and children's wishes. But I feel that if we offer these opportunities it allows the child to work through the experience and get an understanding for what it is they are

seeking. We have the perfect environment for it and as the weather gets warmer it makes me want to explore this further with _____. I'm thinking of starting with a sensory experience around ice and then possibly looking at body painting. Lets have a discussion Mum and Dad around your thoughts about what you feel messy play means for _____ and your own feelings around it 🙂

Whānau Voice / Comments

> 05/09/2013
>
> Parent
>
> _____ loves the feeling of any thing on her face and in her mouth! She watches her mum putting on lipstick every morning and we wipe the lipstick tube on her lips. I think she enjoys the freedom she has with exploring the different feelings on her skin At _____. We have played with ice at home and she thinks it is magic - the melting process. Will be interesting to see what she does with it in the _____ environment :)

The Learning Stories written for Kate in her ePortfolio were very different from those in her paper-based portfolio. Nearly every story identified what learning was happening and how this learning could be extended. The teachers were writing in a more consistent manner and they were making links to previous learning experiences. Regular reference to research and theory was made by the teachers within the contents of the Learning Stories and it was clear how these ideas connected with the learning that they had identified. There was a significant increase in the number and frequency of Learning Stories in Kate's ePortfolio compared with her paper-based portfolio, with 32 Learning Stories being added in the year of data collection. Parent and whānau engagement had also increased, particularly for one set of grandparents who regularly commented on Kate's Learning Stories. Seven videos had been included in Kate's ePortfolio and it was through reviewing these videos with Kate, alongside talking about the stories, that her parents engaged with her learning.

6.7 Emerging themes and Suppositions

Consistent themes have emerged from these case studies. It is very clear that the ePortfolios have encouraged *increased engagement* with children's learning by parents and whānau. Five of the six case studies demonstrated an increase not only in a tangible way, through comments and contributions, but also verbally as parents and whānau engaged in more conversations about their children's learning with the teachers. This theme will be discussed further in chapter seven. Secondly, the case studies show the ePortfolios have encouraged *changes to teachers' formative assessment practices*. This theme will be discussed further in chapter eight. The third clear theme to emerge from the case studies is that of the importance of portfolios, both paper-based and online, in aiding children to revisit their learning. This is a consistent theme in all of the case studies. Through portfolios children are *recalling, reconnecting with and restarting* learning. This theme will be discussed further in Chapter Ten.

These three themes show clear development of a community of practice since the introduction of ePortfolios.

Figure 6.12 Emerging themes - paper-based and ePortfolios
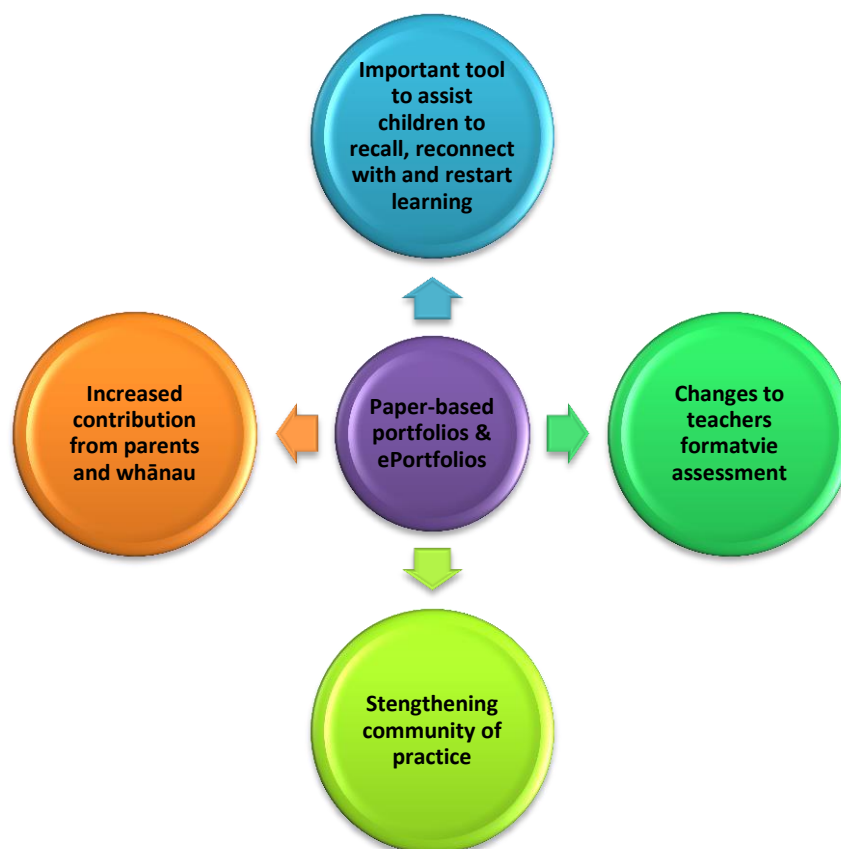
6.8 Summary and looking forward

This chapter has presented the findings of the six case studies. It included the journeys of the parents, key teachers and children through interview data and analysis of the children's paper-based and ePortfolios. Each case study was investigated in turn and from these investigations three main themes emerged:

- That there has been a change in the teachers' formative assessment practices since the intervention of ePortfolios;
- That there has been increased contribution in a written from parents and whānau to the children's ePortfolios compared to what was contributed to the paper-based portfolios;
- That portfolios assist children to recall, reconnect with and restart learning;

These themes appear to have directly impacted on the community of practice operating within the ECE setting - the juvenile community of practice was growing through the introduction of ePortfolios.

The following chapter will present the findings from the Midway and Final surveys which were undertaken by parents, whānau and teachers. These surveys investigated what had happened since the introduction of the ePortfolios, in terms of parent and whānau engagement and teachers' formative assessment practices. The chapter also includes reflective responses from three teachers and the findings from the interviews with the ECE setting's management team.

Chapter Seven: ePortfolios – The Journey Ends

7.0 Introduction

This chapter introduces the findings from two surveys. Each survey contained a series of different questions for each participant group. The Midway Survey, implemented in February 2014, will be presented in this chapter as it documents the participants' experiences with ePortfolios halfway through the data collection period.   At the conclusion of the data collection period a Final Survey was offered to the research participants.   This was implemented in August 2014 and included teachers, parents and whānau.   This survey investigated the participants' thoughts about the ePortfolio system after it had been operating for a year.   Three teachers also wrote reflections on their personal experience with the ePortfolios and these will be included in this chapter.

7.1 Teachers' survey responses

The Initial Survey included responses from 12 teachers, when the Midway and Final Surveys were completed nine of the original 12 participants completed these. There were two main reasons for the decline in respondents. Since the onset of the research one teacher had left the ECE setting and she was not replaced as another teacher had moved from part-time employment to full-time. One teacher was overseas when the Midway Survey was completed and had returned to the setting by the time the Final Survey was offered, which she completed. This means that for the Midway survey, of the 12 teachers who had completed the Initial Survey one had left, one was away overseas and one did not complete the survey. For the Final Survey, of the 12 teachers who had completed the Initial Survey one had left and two did not complete the Final Survey. Although the ECE setting Supervisor encouraged all the teachers to complete the surveys, as noted above, some chose not to. Due to anonymity the Supervisor was unable to follow up with teachers who had not completed so it is unclear as to why they chose not to complete the subsequent surveys.

7.1.1 Access, contributions and sharing - ePortfolios

Access and contributions

By the time the Midway Survey was completed in February 2014 all of the teachers who responded had accessed the ePortfolio system. All nine teachers had contributed to the ePortfolios. The number of ePortfolios they had contributed to ranged from six to all of the children's ePortfolios in the over-two section of the setting (approximately 33 ePortfolios). The teachers identified that they had contributed Learning Stories, learning moments, photos and videos. Erica wrote:

> I have contributed Learning Stories, learning moments and photos of children in their play. At our special occasions like Matariki[17], I will also document stories to support children with photos of their family. I try to contribute to a wide range of children's portfolios to share my lens on their learning. Each month I try to write a story for a child I haven't documented before or need to reach out to (Erica, teacher, Midway Survey, February, 2014).

Table 7.0 What teachers were contributing to the children's ePortfolios (data from Midway Survey, coded responses)

Teacher	Learning Stories	Learning moments	Photos/videos	Comments
Sandra	✓	✓	✓	✓
Georgina	✓	✓	✓	
Robin	✓	✓	✓	
Erica	✓	✓	✓	✓
Katrina	✓	✓	✓	
Leslie	✓	✓	✓	
Marie	✓	✓	✓	
Stephanie	✓	✓	✓	
Joanne	✓	✓	✓	
Total	**9**	**9**	**9**	**2**

The teachers in the setting who were undertaking teacher registration were also transferring the Learning Stories that they had written for children to their own ePortfolios as evidence of their teaching practice. Leslie noted "I also contribute to my own ePortfolio; I use this as a tool to complete my teacher registration. I do reflections and upload pictures as proof towards my teaching" (Leslie, teacher, Midway Survey, February, 2014).

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[17] Matariki is the celebration of the Māori (indigenous people of Aotearoa New Zealand) New Year.

Sharing

Seven of the nine teachers who responded to the Midway Survey shared the ePortfolios with the children whilst they were at the ECE setting. The other two teachers stated that they had not shared the ePortfolios with children yet. The frequency of these interactions ranged from weekly to bi-monthly.

Table 7.1 How often teachers shared the ePortfolios with children (data from Midway Survey, checklist)

Frequency	Number of teachers who did this (n=9)
Weekly	2
Fortnightly	2
Monthly	2
Bi-monthly	1
Did not do this	2

The teachers were using the ePortfolios with the children in a variety of ways whilst they were at the ECE setting. They were looking at Learning Stories that they had written for the children with them, as well as photos and videos. Several teachers were using the ePortfolios to revisit learning and by doing this they were helping children to recall, restart or reconnect with learning (see Chapter 10 for further discussion on recalling, restarting and reconnecting). Two teachers noted that they would use the ePortfolio to show the children a comment or contribution from a parent or whānau member. Three of the teachers were using the ePortfolios to document children's learning alongside them. In this way they were capturing the child's voice: they were including the child's perspectives on what was happening, making their voice within the learning much more visible. Erica gave some examples of how she used the ePortfolio with the children:

> When I am working with children I use the tablet and ePortfolio to document the children's voice as they share their ideas with me, For example I have documented a child's voice towards four paintings they have done. It highlights the story behind their work. I will also document children's voice in play with each other, like in dramatic play. Children become interested in me doing this and I find they talk more to me. I also use it to share in a child's learning; we are able to watch their videos together. Recently I used the ePortfolio with a child to share in the parent story written for them, which therefore opened the doors of communication. Recently a family put holiday photos in their child's ePortfolio, I took an opportunity to revisit these photos

with the child and then I recorded his voice and gave him time to share these photos with me (Erica, teacher, Midway Survey, February, 2014).

Table 7.2 Ways the ePortfolios are used in teacher/child interactions (data from the Midway Survey, coded responses)

Teacher	Revisit prior learning	Capture child's voice	Share parent or whānau contribution	Share photos and videos	Does not do this
Sandra	✓	✓			
Georgina	✓	✓	✓	✓	
Robin			✓		
Erica	✓	✓	✓	✓	
Katrina	✓			✓	
Leslie	✓		✓	✓	
Marie					✓
Stephanie					✓
Joanne			✓		
Total	**5**	**3**	**4**	**5**	**2**

The two teachers who hadn't used the ePortfolios with the children were both located in the under-twos section of the ECE setting. They both noted that this was not something that they had really thought of doing with the children in the age group they worked with.

When it came to sharing the children's experiences at the ECE setting with their parents and whānau through the ePortfolio, eight of the nine teachers said that they did this. The teachers had looked at the ePortfolio or had conversations about the contents with a range of different family members.

Table 7.3 Whānau members the ePortfolio has been shared with (data from the Midway Survey, coded responses)

Whānau member	Number of teachers who did this (n=9)
Father	7
Mother	6
Grandparent	2
Aunt/Uncle	2
Sibling	2
Family Friend	1
Prospective Families	1
Can't recall	1

Most of the teachers were sharing the contents of the ePortfolios with parents and whānau fairly regularly, with seven teachers identifying that they did

this daily, fortnightly or monthly. One teacher had shared the ePortfolio a few times and the other on only one occasion that they could recall.

Table 7.4 Frequency of sharing ePortfolios with parents and whānau (data from the Midway Survey, checklist)

Frequency	Number of teachers who did this (n=9)
Fortnightly	3
Monthly	2
A few times	2
Daily	1
Only once	1

The teachers commented that they had several reasons for sharing the contents of the children's ePortfolios with their parents and whānau. Mainly they would share the learning that they had noticed, along with children's strengths and interests, doing this either verbally or by physically showing the parent or whānau member a learning story (5/9 teachers). The ePortfolios were mentioned as being useful for settling families in and on occasion the ePortfolios would sometimes be shared with the parents or whānau before a learning story had been written, in particular to show them photos or videos. The teachers referred to the ePortfolios to inform a parent or whānau member that a new story had been added, to ask if they had seen a particular story yet and to verbally respond to parent and whānau comments.

Table 7.4 Frequency of sharing ePortfolios with parents and whānau (data from the Midway Survey, checklist)

Teacher	Sharing children's learning experiences	Helping new families settle in	Identifying when a new story had been added	Showing photos before story completed	Responding to comments
Sandra		✓			
Georgina	✓	✓			
Robin	✓				
Erica	✓	✓			✓
Katrina			✓		
Leslie			✓	✓	
Marie			✓		
Stephanie			✓		
Joanne	✓		✓		
Total	**4**	**3**	**5**	**1**	**1**

The teachers were asked to rank[18] how valuable they felt the ePortfolios were for the following aspects:

i. Children's learning

ii. As a teaching tool

iii. As an assessment tool

iv. For parent and whānau engagement

v. Accountability

All of the respondents identified that the ePortfolio was extremely valuable for each of these aspects of education and care within the ECE setting. The same question was asked in the Final Survey and the responses had changed slightly. Two teachers had changed from *extremely valuable* in terms of children's learning to *somewhat valuable*. One teacher had moved from *extremely valuable* as an assessment tool to *somewhat valuable*. There was no indication in these teachers' comments as to why they had shifted in these areas.

Table 7.6 Teachers' thoughts about value of ePortfolios - shift from Midway Survey to Final Survey (checklist)

Teacher	Children's learning		As a teaching tool		As an assessment tool		For parent and whānau engagement		Accountability	
Survey	M/W	F	M/W	F	M/W	F	M/W	F	M/W	F
Sandra	EV	EV	EV	EV	EV	EV	EV	EV	EV	EV
Georgina	EV	EV	EV	EV	EV	EV	EV	EV	EV	EV
Robin	EV	EV	EV	EV	EV	EV	EV	EV	EV	EV
Erica	EV	EV	EV	EV	EV	EV	EV	EV	EV	EV
Katrina	EV	**SV**	EV	EV	EV	**SV**	EV	EV	EV	EV
Leslie	EV	**SV**	EV	EV	EV	EV	EV	EV	EV	EV
Marie	EV	EV	EV	EV	EV	EV	EV	EV	EV	EV
Stephanie	EV	EV	EV	EV	EV	EV	EV	EV	EV	EV
Joanne	EV	EV	EV	EV	EV	EV	EV	EV	EV	EV

[18] The ranking scale choices were: Extremely valuable; somewhat valuable; little value; not valuable at all.

7.1.2 What has changed with the paper-based portfolios

All the teachers noted that they were still accessing the paper-based portfolios. However, this had changed between the commencement of the data collection and the final data collection, towards the interactions occurring only when a child initiated them. This finding is consistent with all the case studies too, where the teachers identified that this was the case. Interestingly, the teachers had also noticed that the way the children were interacting with their paper-based portfolios had changed during this period. Although the children were still accessing the paper-based portfolios regularly to recall their own learning and that of their peers, by the end of the research period they were making links between these and their ePortfolios. Leslie noted: "Some of the children link their paper-based portfolios with the ePortfolio. For example, they might say something like 'This is on my computer at home'" (Leslie, teacher, Midway Survey, February, 2014). Through the introduction of the ePortfolios the children had also become more interested in electronic technology. They were becoming more familiar with the tablets the teachers used and were starting to be able to find particular stories within their own ePortfolios. The children were also asking for the teachers to add things to their ePortfolios. Stephanie (teacher, Midway Survey, February, 2014) surmised that this was because the children had recognised that their parents and whānau viewed them more often than the paper-based portfolios.

The teachers identified several benefits of a paper-based portfolio system. They considered that the children felt a greater sense of ownership with their paper-based portfolios than with their ePortfolios. However, they qualified this by stating that this could be a result of the lack of equipment available to them to access their ePortfolios at their leisure. For that reason the teachers felt that the paper-based portfolios were more accessible to the children. They were able to carry the paper-based portfolios around the ECE setting and could spend as much time looking at them as they wanted. They could also take their paper-based portfolios home to share with their parents and whānau and they could use them to initiate interactions with teachers and other children. These

interactions were regularly seen during observations undertaken in the ECE setting (refer to section 5.2 in chapter 5). The paper-based portfolios appeared to provide children with a sense of wellbeing and belonging within the ECE setting and one teacher stated that they were a strong tool for supporting early literacy. Paper-based portfolios were a tangible object which children were able to add to as they wished.

Table 7.7 Benefits of a paper-based portfolio system (data from the Final Survey, coded responses)

Benefits	Number of teachers who recognised this (n=9)
Accessibility	6
Increased wellbeing and belonging	3
Revisiting past learning experiences	3
Initiating interactions	3
Sense of ownership	2
A place for children to add original artwork and other content	2
A tangible object for children	2
Assists early literacy	1

Leslie captured these viewpoints when she noted:

> For children I really like the paper-based portfolios. We have the portfolios at a level the children can easily access, which allows them the time to revisit and reflect upon their learning journeys. Children love to share their portfolios with each other within the centre, and also with us as teachers. Children also love to take their portfolios home to share with their families. The paper-based portfolios are also something tangible the children can touch, hold on to and can keep as taonga [something precious] for the many years ahead of them (Leslie, teacher, Final Survey, August, 2014).

Concurrently with identifying the benefits of a paper-based portfolio system, the teachers also identified a number of drawbacks. Several teachers felt that they were an ineffective use of their time. Having to sort through pages of content meant that it was difficult to make links to previous learning, and the pages were not always in order. The filing of the Learning Stories and other content into the paper-based portfolios also took up a significant amount of their time. Some noted (4/9) that the paper-based portfolios were not always available. This could be because they had not been returned to the ECE setting or because they had been lost. A few teachers were concerned at the lack of

parent and whānau engagement with the paper-based portfolios and that they often did not remember to take them home. The teachers also identified that other content such as videos couldn't be included in the paper-based portfolios so valuable learning moments were not added. Finally they noted that the paper-based portfolios were easily damaged, that there were high cost factors associated with them and that they took up valuable space within the ECE setting which could be better utilised. Erica observed:

> We have had portfolios go home and never come back. They also can get well thumbed through and out of order. They need to be accessible and take up space in the environment. Teachers have to file stories on a regular basis to keep current. Cost to do this staff resource, printing, clearfile. Teachers do not always have access when writing stories so they do not enhance connections in stories and learning over time (Erica, teacher, Final Survey, August, 2014).

Table 7.8 Negatives of a paper-based portfolio system (data from the Final Survey, coded responses)

Negatives	Number of teachers who identified this (n=9)
Time consuming	6
Not always available	4
Lack of parent and whānau engagement	3
Videos and some other content can't be added	2
Easily damaged	2
Cost factors	1
Take up space	1

7.1.3 Implications of the ePortfolio system

Eight of the nine teachers who completed the Final Survey said they would choose the ePortfolio system over the paper-based portfolio system. The teachers said that the main reason they would do this was because of the accessibility of the ePortfolio system, both for themselves and for parents and whānau. They also felt that the ePortfolios had greatly increased parent and whānau engagement with their children's learning and had strengthened communication between teachers, families, the wider community and with each other. The teachers noted that the documentation being added to the ePortfolios was far richer than had been the case with the paper-based portfolios. The Learning Stories and learning moments were more complex, research and theory was being included and links were being made to the ECE

curriculum, *Te Whāriki*. Learning Stories in the ePortfolios often included multiple perspectives as teachers added to them or built on them. The ePortfolio system had led to deeper reflection amongst the teachers which was enhanced by ongoing discussions that were occurring all the time, rather than waiting for staff meetings. Furthermore the teachers identified that children were contributing to their ePortfolios. The teachers were writing Learning Stories alongside them and were giving them opportunities to add their voice. Children were also part of the decision-making process about what went in the ePortfolios as they helped select photos and videos to be uploaded. The teachers also confirmed that the ePortfolios made them more accountable; they had to make contributions because they would be seen by all the other teachers and the child's parents and whānau. In short, the ePortfolios were *personalised to the learner*. Georgina described the benefits of the ePortfolio system in detail in the following ways:

Children's contribution:
Children can contribute to their stories "on the floor" as teachers write them and they can make decisions about photos, videos and how their stories look and what documentation they value. Easier to keep track of who's had stories and ensure each child's documentation is up to date. This is to the benefit of children and more equitable ensuring they are getting at least one learning story and some learning moments each month…

Opportunities for communication
[ePortfolios] …open up opportunities for more in-depth communication for children with family members out of town who don't have access to paper-based portfolios. These family members can contribute to the children's learning journey through the Educa programme. Families feel more connected and involved with their children's learning and this strengthens and adds to more meaningful connections between home and the centre. Parents/families can access it anywhere at any time e.g. [they] get emails at work and immediately see what their child has been interested in and focused on through stories, learning moments or videos and can provide immediate feedback.

Ease of use
It is more user friendly, easily accessible and families feel more freedom and ownership to contribute as evidenced by the number of families contributing online compared to contributions in profile books. (Families can write comments, share information relevant to a teacher's story or they can write their own story, adding photos or videos from home).

Saves time
[Adding to the ePortfolios] … is easier and time saving system to use with the centre tablets. Photos and videos can be uploaded immediately into the system and Learning Stories have a set format. Saves on the time previously

used to organise photos in folders and arrange word documents for stories. It's more rewarding to write Learning Stories and know they are being read and commented on by parents and families and to be able to respond to comments through new stories or learning moments.

Professionalism

It brings more professionalism to our teaching roles as stories are read by a wider circle of people including extended families and other teachers. It is much easier to keep track of stories online - see what other teachers are writing in published stories and in drafts and to reread old stories and learning moments to assess children's learning over time.

Overall picture of children's learning

It is much easier to have an overall picture of the learning that is valued and happening in our centre and what other teachers are thinking and planning. It enables teachers to look at the opportunities and possibilities for ongoing learning and to communicate this to families and other teachers. For teachers this provides an easy way to reflect and make links in children's learning. Stories can be linked to learning outcomes (Te Whariki)

Ease of access

Teachers can access Educa anywhere at any time. This is hugely beneficial and time saving (Georgina, teacher, Final Survey, August, 2014).

Table 7.9 Benefits of an ePortfolio system (data from the Final Survey, coded responses)

Benefits	Number of teachers who recognised this (n=9)
Ease of access	8
Increased parent and whānau engagement	8
Richer documentation	6
Children contributing	3
Useful for teacher registration	3
Increased accountability	2

Alongside the merits of the ePortfolio system some of the teachers identified drawbacks; however four of the teachers who responded noted that they thought that ePortfolios had no negative aspects. The remaining teachers identified that there could be problems of accessibility for some families, but this was not the case in this study. Other aspects identified as negatives by the teachers were that the ePortfolios were not always easy for children to access and that the lack of tools and the quality of the tools they had for accessing the ePortfolios within the ECE setting could be an issue. Finally a teacher stated that the ePortfolios were sometimes slow and took a while to load. It was likely that this is more to do with the internet than the ePortfolio platform, however.

Table 7.10 Negatives of an ePortfolio system (data from the Final Survey, coded responses)

Negatives	Number of teachers who identified this (n=9)
None	4
Limited family access (a possible negative - not evident in this study)	2
Limited children's access	1
Lack of tools and quality of tools (i.e. tablets)	1
Sometimes slow	1

7.1.4 Changes to teachers' formative assessment practices

One of the research questions posed at the onset of this study was whether the introduction of the ePortfolio system would change teachers' formative assessment practices. Overwhelmingly, all nine teachers who responded to the Final Survey believed that their formative assessment practices had changed – for the better.

More complexity

The teachers commented that their Learning Stories and other formative assessment documentation had become more complex. They were making connections with past learning and were therefore constructing authentic learning journeys. These journeys were authentic because they were meaningful to children, parents, whānau and teachers and they show a journey of learning and development over time. The teachers thought that they were adding rich resources to their Learning Stories such as relevant research and theory. This is demonstrated in several of the learning story examples from ePortfolios provided in Appendix Ten. The teachers were also including perspectives from parents and whānau through insights they had gained in their conversations about children's learning. As identified in the case studies the teachers stated that these conversations had become more frequent than they were with only paper-based portfolios operating. An example of a learning story with increasing complexity is below.

Curious, playful explorer

26/06/2014

By: [redacted]

While preparation for our Matariki lunch was happening out the front of [redacted] ast Thursday morning a few children came down to the bottom area to play. [redacted] you were one of them and on noticing our fire pit was missing the fire grate you set about building your own fire. You gathered all the sticks you could find lying around in the pit area and placed them on the stones under the billy holder. Then off you ran round the back of the flax to find some more.

After you had built up the fire you suddenly gathered up all the sticks and ran off with them. When I inquired what you were doing you told me you were going to hide the sticks so you could find them and build your fire again! Round the back of the flax you went again with your sticks, telling me as you did "I'm hiding them in here!"

What learning do I think is happening here?

Persistence and playfulness are dispositions that come to mind on reading some of your previous stories☐and I see them again here as you play with your ideas around creating a fire and engage your sense of humour and fun as you express your ideas and run off to hide your wood.

As your Mum☐has noted you have such a playful spirit and determination to explore and achieve your ideas. I enjoy your enthusiasm, your curiosity and your playful nature☐as you explore the people, places and things in our environment.

In my research around the term 'playfulness' I came across this quote which I felt expressed how I see you as a learner☐-

"The playful child is one full of the zest for living and learning. Children at play are curious and competent explorers who use all their senses to find out about the people, places and things they encounter".
(Ashton, E., Stewart, K., Hunt, A., Nason, P., and Scheffel, T., 2009)

Opportunities and possibilities?

Our environment provides the time, space, materials and support to enable you to play for the sake of playing and the pleasure of it, and to explore and engage deeply as you pursue your interests and passions. I look forward to sharing in your enthusiasm, fun and curiosity as you continue to explore☐

Fires continue to be part of our weekly programme over these winter months as children have explored different things from our environment we can burn, and recently new

ideas and ways we can cook☐has discovered a way to cook lemon muffins on the fire - I can't wait to try it!

Revisiting

Secondly the nine teachers who completed the Final Survey considered that they were revisiting learning over time in a more effective way since the introduction of ePortfolios. Through this their planning for future experiences was strengthened as opportunities and possibilities were recognised and responded to. Erica termed this "advocating for children's learning" (Erica, teacher, Final Survey, August, 2014). This finding is also supported by the teachers' comments in the case studies (for an example see Stephanie's experience with ePortfolios in section 6.4). The following brief example illustrates this finding (see Appendix Ten for the full learning story).

Figure 7.1 An example of a learning story in an ePortfolio which revisits a previous learning experience

Revisiting bike day

Created on:3/04/2014 12:54:58 p.m.By:

On our recent bike day ▓▓▓ you stood out to me as you were confidently riding the bike round and round the playground. As I wrote your learning story, I was contemplating another bike day as it was such a hit with all the children and teachers. Responding to this, I decided you were my helper for writing the sign as I also know you have been exploring letter formation and understanding the world of words. I noticed you totally engaged in making this sign, wondering what the letter is, how it feels to write and what it looks like. You then proudly placed the sign on the door, so everyone could read it and remember to bring their bikes to ▓▓▓.

Group Learning Stories and individualisation

Some of the teachers thought that their formative assessment documentation had become more individualised (as noted in 7.1.3 and demonstrated in the case studies). Very few group Learning Stories were being written for the children. Those that were included in the ePortfolios were individualised through inclusion of features relevant only to that child, such as photos of their family. This change was evident in the analysis of the case studies of children's paper-based portfolios and ePortfolios (see chapter 6). It is important to note that there is still a place for collective stories, particularly when teachers want to demonstrate group interactions and dynamics such as co-operation and collaboration. An example of a collaborative collective group learning story is below.

Figure 7.2 An example of a group collaborative learning story in an ePortfolio

Working on a Creation

10/08/2014
By:

My project for today (31.07.14) was to create a sign for our newly developing "Creation" shelf. (A place where we can display our varied and thoughtful creative pieces that are expressed daily at ▭). Throughout

my project children came in and out, offering their skills and contributions as our sign took shape.

It was in the final steps of the project that I stood back in awe, observing a powerful group of learners coming together to solve the final problem. The task they had taken on was to place the letters into the stand in the right order, matching them to the word "CREATIONS" that I had written down on a piece of paper as a reference for them.

They worked together constructing their knowledge, quite quickly all deciding that the letter 's' was placed at the end, with ▢▢▢▢ holding that strongly throughout their negotiating, certain of its spot.

I purposefully stepped back and as they were reaching the end and the letters were nearly in order, I could see that ▢▢▢▢ and ▢▢▢ were not content with the final order, although I could also see that they were a little uncertain and did not know how to communicate this.The 'I' and the 'O' were around the wrong way. I affirmed to them that there was a problem and modelled the strategy of matching all of the letters to the written word, to check where the problem lay. Then together we decided on a plan to fix it. With a shared sense of satisfaction when everything was in order and the job was complete!

What learning do I think is happening here?

When I speak about this powerful group of learners, I am thinking about some strong skills and learning dispositions that I have seen grow and develop overtime, only to get stronger and stronger and more competant. From observing ▢▢▢▢▢▢ and ▢▢▢▢ I was reminded of their approach to learning. They are very practiced thinkers, eager to take on a task that requires thought and a challenge. They also all relate well with others where they have the" ability to listen to others, recognise different points of view, negotiate and share ideas" (NZ School Curriulum). They also all have become very switched onto literacy learning, so an opportunity like this they snapped up, eager to put their knowledge into practice and challenge it in order to make it grow, as they continue to make meaning of the written language and recognise there is much more to learn and know.

Opportunities and possibilities?

There was a real sense of purpose in this task, I feel that is because it was attached to something that was real, a task where these tamariki could apply their knowledge and skills. I know that they are all very competent so by stepping back and allowing their skills and strategies for working with others come alive was a pleasure to observe, along with stepping in when it was required to support their developing strategies for problem solving throughout their learning. At ▢▢▢▢ children are a part of everything we do, sharing responsibilities and being a part of our always developing growing and changing environment, like making this sign, provides meaningful learning opportunities for our tamariki. I will continue to involve ▢▢▢▢▢ and ▢▢▢ in this kind of way, especially as their thirst for taking on challenges like this grows leading up to their transition to school.

Teachers' discussions

Other teachers noted that their dialogue had changed. Children's learning was being discussed consequently and as such the ECE setting's philosophy was visible. Erica noted "Learning and teaching in our place is a priority" (Erica, teacher, Final Survey, August, 2014). Two of the teachers noted that they thought that there were more Learning Stories and learning moments being written for the children. This observation is strongly supported by the findings of the case studies (see graph 8.0 in chapter 8). The Learning Stories and learning moments in the children's portfolios had more than doubled in some instances.

Modelling best practice

Finally, two teachers noted that they were modelling best practice. The teachers were sharing different ways of writing with each other and were constantly challenging themselves to undertake effective professional development which centred on learning and teaching.

Leslie highlighted several of these changes when she commented:

All the child's learning is created into one folder which can be easily accessed when we write a story for them. This makes for easy linking between stories as we reflect upon who the child is as a learner, who they are as an individual and then build upon this over time. This way of documenting supports individual planning as we write more meaningful [Learning Stories], with links to future possibilities. I also think as teachers we are writing more stories for all children, and on the floor we are working in pairs (different teacher each day), so in moments on the floor we are engaging with each other more meaningful dialogue for individual children. I noticed this and this person - and the other teacher is responding and then adding in stories to support these discussions. Children's individual portfolios are so much more richer through more stories and they are deeper by having connections made over time (Leslie, teacher, Final Survey, August, 2014).

Table 7.11 Changes to teachers' formative assessment practices (data from the Final Survey, coded responses)

Teacher	More complex	Effective revisiting of learning	Individualised	Richer dialogue between teachers	Regularly contributed to ePortfolio	Modelling best practice
Marie		✓				
Erica	✓	✓		✓		✓
Georgina	✓					
Leslie	✓	✓	✓	✓		✓
Stephanie	✓					
Sandra	✓		✓		✓	
Joanne			✓	✓		
Eilish	✓	✓	✓	✓		
Robin			✓	✓		
Total	**6**	**4**	**5**	**5**	**1**	**2**

Differences in contributions to ePortfolios in comparison with paper-based portfolios

The teachers also observed that what they contributed to the children's ePortfolios was different to what they were including in the paper-based portfolios (9/9). They noted that the frequency of their contributions had increased. Leslie said "I am writing far more stories. Easy access with the tablets has meant I can begin to write a story with the child and record their voice easier when I'm on the floor. Easier access at home means more writing" (Leslie, teacher, Final Survey, August, 2014). The teachers also remarked that the quantity of their contributions had increased. Furthermore the teachers had noticed changes to the quality of their writing. As noted above their writing had become more meaningful. They were clearly noticing learning (the body of the story), recognising the learning (what learning is happening here?) and responding to the learning (opportunities and possibilities). These changes can be clearly seen in the learning story examples provided in Appendix Ten. The teachers were adding more learning moments to sit alongside the Learning Stories and these were often enhanced with videos, as were the Learning Stories. Finally, they thought that they were responding more effectively to parent contributions, something that was not often done with the paper-based portfolios.

Table 7.12 Changes to what the teachers were contributing to the children's portfolios (data from the Final Survey, coded responses)

Teacher	Frequency of contributions	Quality of documentation	Increased inclusion of learning moments	Responding to parent and whānau contributions	Including videos
Marie		✓			
Erica	✓	✓		✓	
Georgina	✓	✓	✓		✓
Leslie	✓	✓	✓		
Stephanie	✓				
Sandra			✓		
Joanne		✓			
Eilish	✓	✓			
Robin					✓
Total	**5**	**6**	**3**	**1**	**2**

7.1.5 Illustrating the teachers' perceptions of change to their formative assessment

The following examples of teachers' contributions to children's ePortfolios are taken from the ePortfolio of the child whose Learning Stories were provided as examples of the content in the paper-based portfolios in Chapter Five. Changes to the teachers' formative assessment practices are evident in these examples. These are:

- An interest was noticed and responded to – this was demonstrated in the first example which was framed as a learning moment. Here the teacher was responding to a learning story which had been written by one of her colleagues. The teacher is validating Milly's interest in party planning and is therefore supporting her to continue this learning journey[19].

- The learning contained within the interest demonstrated by Milly was recognised by the teacher (in this example it is literacy in practice), and has been recorded as a learning story.

- Further opportunities and possibilities to support and extend the learning are identified. The teacher has identified Milly's interest in organising a party as a process; this demonstrates that the interest will continue to be

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[19] Note that this dated after the next learning story; however, it appeared first in Milly's ePortfolio.

supported as Milly and the teachers prepare to host the party at the ECE setting. Milly's learning journey is linked to the early childhood curriculum, *Te Whāriki*.

- The learning journey continues and is recorded in further learning moments and Learning Stories until the day of the party.

- From planning a party Milly's interest is further extended as she is empowered to drive the ECE setting's planning for the upcoming Matariki celebrations.

- From the 1st of July 2013 until the 30th of June 2013 55 Learning Stories and learning moments had been added to Milly's ePortfolio. There were still no parent or whānau contributions but the child's voice was particularly evident in Milly's stories as she engaged in what the teachers were writing for her.

Party Invitations

25/05/2014

By: ▭
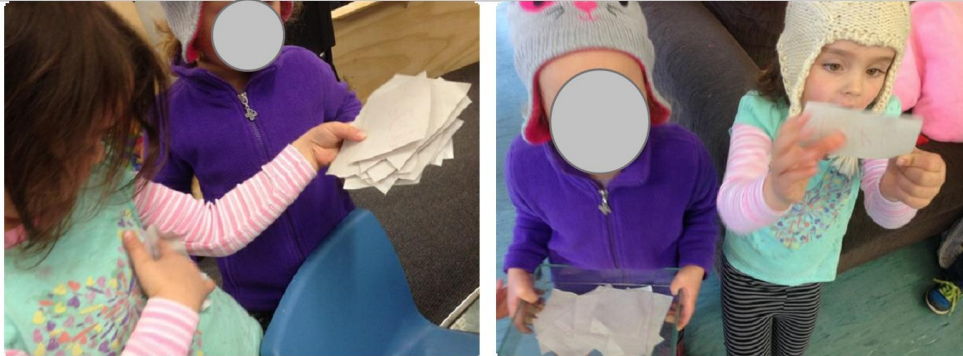
▭, I know ▭ is writing a story for you about your party planning. I too noticed on Thursday how eager you were to get everybody on board. You spent such a long time cutting out pieces of paper and then using the children's sign in sheet you wrote everyone's name on their individual invitation. Once finished ▭ helped you out by holding the container. "Whose is this name ▭?" you asked, and when I told you would disappear to deliver the invitation. What a fabulous example of how literacy happens in our place ▭. I cannot wait to dress up and come to your party. I will make sure I read your sign carefully tomorrow!

Organising a party

23/05/2014

By: ▢

Today, you have arrived at Lintotts ▢ continuing to hold on to your interest in organising a party. ▢ story about party invitations was the beginning of this idea and today we have spent time adding to this, by thinking about what is a party and what does a party need to be fun. After some time together thinking, collaborating and sharing ideas, you have come up with a theme of dress up day. You then asked me "What do the teachers wear, do they have dress ups?" As ▢ was in the kitchen we asked her, and she replied "I have a penguin onesie". ▢ then came into the room and so you asked her and she said "I can be Cinderella" and ▢ said she had something at home too. "I have heaps of dress ups, I have three, I have a Cinderella, a sleeping beauty and snow white" you inform me, I wonder which one you will choose?

This idea was beginning to take shape, "we need a sign to tell everybody" you suggest to me.
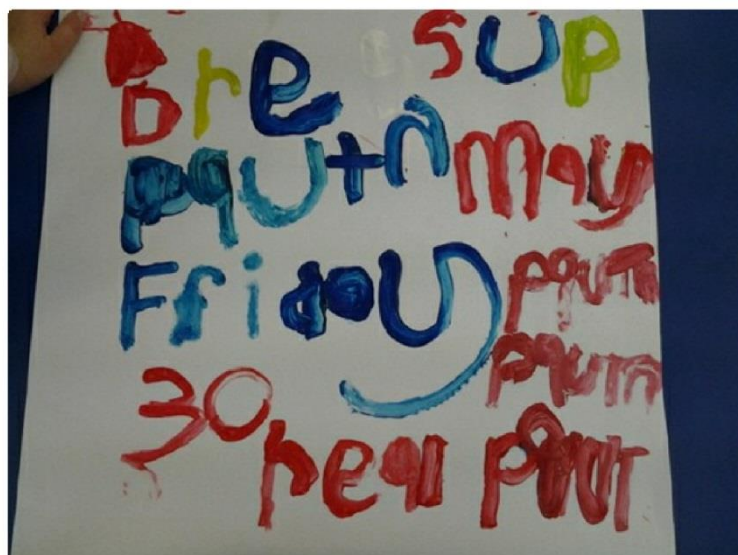
We then talked through the information needed on the sign to inform others of what is happening. This included your idea - dress up day and when - Friday 30th May.

What learning do I think is happening here?

Like ▢ has suggested, this is literacy in practice. ▢, you are learning about letter formation through meaningful work as we take your idea from your mind and make it into something real. Today, we have taken your idea, placed it on paper through making a sign and we have placed it on the door for everyone to read. I wonder what you might need to organise next for your party ▢?

Opportunities and possibilities?

▢, organising a party is a process, one in which we are about to explore. I look forward to working alongside you as we grow your ideas and make them come to life by implementing them. What fun are we going to have on dress up day!!

Link to Te Whāriki

EXPLORATION	Children experience an environment where they learn strategies for active exploration, thinking, and reasoning.
EXPLORATION	Children experience an environment where they develop working theories for making sense of the natural, social, physical, and material worlds.

Developing your party ideas

27/05/2014
By: [redacted]

[redacted], this morning I have noticed the spring in your step as you confidently approach me with more party ideas. "We need decorations" you inform me. "Do you have anything in mind [redacted]?" I ask. You were not to sure, so we decided to research images to find something of inspiration.

This one caught your eyes [redacted] and you set about achieving the colourful paper hanger. You were very focused on this idea.

From here, you began applying yourself to more writing. This time you were making cards with the children's names on it for the party.
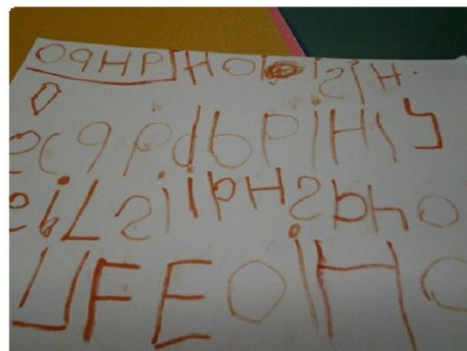
"What about presents?" you ask me. "What games are we going to play? you always have games at the party" you inform me. I suggested you make clay creations knowing the clay was outside and you return sometime later with these clay presents.   You then gathered some shells and began wrapping them in newspaper for 'pass the parcel'.

, over time and with so many ideas we are developing a great party. I am so looking forward to Friday, excited!!

The dress up party is here!!

30/05/2014
By: [redacted]

With so much anticipation and excitement [redacted], dress up day has finally arrived. Wearing a princess dress, a huge smile and jumping for joy I know you are ready to have a fabulous day here at [redacted]. To begin the day, there is a photo moment, with more princesses, also a lady bug and Peyton too.

You and I were deep in discussion about making kebabs when [redacted] shares with us "I am really good at making fruit kebabs because I have made them before". [redacted], I admired the way you listened to [redacted] and welcomed her helpfulness into the planning process as you make the afternoon tea treats.

Yummy looking fruit kebabs!! Our homemade cake also needed icing and who better to help than ▢.

Game time!! Your first game was a pinata and ▢ excitingly got to take the first swing. This swing sent the pinata flying towards the fence were treasured shells were revealed. Next was pass the parcel, where ▢ (student) and I became the music. We sang 'baa baa black sheep' and when the song finished ▢ got to open the parcel. Inside was more treasured shells, which then became treasure in the garden as you all played hide and seek the shells.

At afternoon tea time, there was cake, fruit kebabs, popcorn and sandwiches, what a tasty feast!! ▢, what an awesome dress up day with well thought out ideas and plans. Well done you!!

What learning do I think is happening here?

[____], you have began with an idea and over time through revisiting and working together we have grown this idea into reality. You have begun with party invitations, organised a sign to inform others, thought out games and created the tools needed to implement them, prepared kai and allowed others to share in your passion. You have worked hard, stay true to the task and you have flourished in this role of event planner.

Opportunities and possibilities?

Next month [____], we are beginning our matariki celebrations which will include our special luncheon here at [____] This celebration requires organisation and planning as we think about decorations, telling of stories, music, kai preparation and much more. I feel like we can draw on your strengths in this area [____], as you contribution to this day will be valuable. Next week we can have a matariki meeting [____] to discuss ideas and talk about what we might need to organise.

Link to Te Whāriki

EXPLORATION — Children experience an environment where they learn strategies for active exploration, thinking, and reasoning.

EXPLORATION — Children experience an environment where they develop working theories for making sense of the natural, social, physical, and material worlds.

A Matariki meeting

06/06/2014
By: ⬚⬚⬚⬚⬚⬚⬚⬚

⬚⬚⬚⬚, you and I have been on an exciting learning journey together over the last month as we organised your dress-up party. To further develop your interests in planning events, today we gathered for our first Matariki meeting. As we sat together on the mat with ⬚⬚⬚, we decided we needed to look back to move forward - so we sat on the computer and looked through last years photos of Matariki and engaged in meaningful conversations and printed off photos.

You then had the idea ⬚⬚⬚ to turn these photos into a book, complete with a cover made by you.

"We need to make a sign, telling our Mums and Dads what to do" you inform me ⬚⬚⬚. What do we write on the sign?" I inquire from you, "I know, please children bring your Mums and Dads to Matariki - see its easy peasy" you say as I write your ideas on paper. You then spent time writing this sign , also including the when - 26th June, Thursday, lunch.
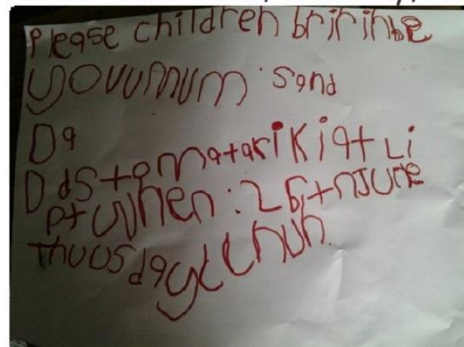
Opportunities and possibilities?

▭ I know that you will be going home with ideas about Matariki, thinking about all the decorations to make and ways to celebrate Matariki. I look forward to bring your ideas to life over the next few weeks as we get organised.

Link to Te Whāriki

COMMUNICATION   Children experience an environment where they experience the stories and symbols of their own and other cultures.

EXPLORATION   Children experience an environment where they learn strategies for active exploration, thinking, and reasoning.

7.1.6 Impact of ePortfolios on children's learning

All nine teachers who completed the Final Survey noted that the introduction of ePortfolios had affected children's learning. This impact, they thought, was definitely for the better. Children's learning was being captured in a timely manner. Teachers were recording formative assessment while they were still on the floor and the technology meant that this could be added promptly to the children's ePortfolios (as noted by some of the teachers in the case studies, see chapter 6). Teachers had developed a well-rounded picture of who the children were as learners and this was reflected through authentic documentation where children were given opportunities to self-assess. Relationships had been strengthened through the introduction of the ePortfolios. The relationships identified by the teachers were teacher to teacher, teacher to parents and whānau[20], and teacher to child. This shows a strengthening community of practice.

Through these relationships the teachers felt that children, their parents and whānau had come to know them well, and vice versa. The parents and whānau contributions to the portfolios also supported these relationships as

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[20] The relationships between teachers and each other and teachers and parents/whānau increased collaboration – see figures 11.0 and 11.1.

children were excited to share what they had added with teachers and their peers. Of these impacts Eilish noted:

> Teachers (I know I am) are thinking more deeply about children's learning. Thus we can accommodate for and encourage further learning within the child's interests. Children seem to be very aware of Educa and that it contains photos of them and a story about these photos. This opens a window for discussion with the children about the stories and learning that is taking place. Children and teachers can reflect together about previous happenings (Eilish, teacher, Final Survey, August, 2014).

Table 7.13 Impact of ePortfolios on children's learning (data from the Final Survey, coded responses)

Impact	Number of teachers who recognised this (n=9)
Formative assessment documentation reflects who the child is as a learner	6
Formative assessment documentation is authentic	5
Relationships are strenghtened	5
Children's learning is captured in a timely manner	4

The children's learning was also being impacted on by the way the teachers were engaging with the ePortfolios. This was confirmed by my observations, see 7.1.9 for examples. Eight of the nine teachers were engaging with the children's ePortfolios on a daily basis. They were using tablets, iPads, smartphones and computers for this. When the teachers were engaging with the ePortfolios they were uploading photos, videos and stories, sharing them with children to recall, restart and reconnect with learning, responding to parent and whānau contributions and adding children's voices to their stories. Georgina was engaging with the ePortfolio for several reasons each day:

> To upload photos and notes on what I am noticing with children's learning – saves time. To share stories and reflect on learning over time with children. To encourage children to share stories with each other. To engage children in selecting photos or stories for wall displays (Georgina, teacher, Final Survey, August, 2014).

The teacher who did not engage with the ePortfolios regularly in the ECE setting wrote that this was because "My personal focus is on the forward journey…this is what I document" (Robin, teacher, Final Survey, August, 2014). To add clarification to this comment, Robin had previously noted that she very rarely

looked at the paper-based portfolios with the children, preferring to focus on new learning rather than revisiting past learning. This was true, too, for how she interacted with the ePortfolios.

7.1.7 Impact of ePortfolios on parent and whānau engagement

All of the teachers surveyed had seen positive impacts on parent and whānau engagement with their young children's learning since the introduction of ePortfolios. The teachers identified three main ways that parent and whānau engagement with their young children's learning had increased.

1. As the formative documentation was added to the children's ePortfolios in near real time parents and whānau were seeing evidence of learning in a timely manner. As Kelly noted "It [the ePortfolio] is far more interactive and you can see stories and contributions in 'real' time and add your comments easily" (Kelly, parent, Final Survey, August, 2014). Another parent, Caroline, agreed with this. She wrote "Videos can be added which is a fantastic dimension to add to a portfolio as you can see your child in real time and enjoy the video with them - it encourages conversation and inclusion in their day's events" (Caroline, parent, Final Survey, August, 2014). This provided an opportunity for deeper understanding of how learning occurred at the ECE setting and how it could be expanded on at home. George noted "It has enabled them [children] to re-visit their learning by sharing it at home with family and friends. They have added to the comments and/or answered questions online that the teachers have posed within their Learning Stories" (George, parent, Final Survey, August, 2014).

2. Teachers, parents and whānau had established deeper responsive and reciprocal relationships. This was evident in the conversations that the teachers said that they were having in the ECE setting and through the ePortfolios with parents and whānau. Caroline commented that the ePortfolio system enabled her:

> …to share with the teachers things that are happening at home, and things that they are interested in. It helps the teachers see patterns in things that might be happening at

daycare and gives them an opportunity to help develop them further. It encourages a parent-to-teacher collaboration that often we forget to do on a daily basis (Caroline, parent, Final Survey, August, 2014).

3. Parents and whānau were engaging with the formative assessment documentation in the ePortfolios. They were responding to Learning Stories and learning moments and were adding other contributions of their own. Through this engagement parents and whānau had become part of the ECE setting's community of practice and were involved in all aspects of centre life. Robin noted "Given recent feedback (both verbal and on Educa) parents/whānau are certainly more engaged than back in the day of paper-based only portfolios" (Robin, teacher, Final Survey, August, 2014). Leslie supported Robin's observation and provided an example of this engagement when she wrote:

> I have noticed we have far more families participating in their child's learning through ePortfolios than paper-based. We have had some awesome responses. One of my families had grandparents who were deeply involved in their grandchildren's learning. So much so, that when we were working with children through a puppet show of nature, and natural materials that the grandparents sent the centre a puzzle to keep. It was so awesome!! Families are writing their own stories and sharing photos – creating funds of knowledge for us as we share the child's interest, strengths through each of their worlds – home life and centre life. Families also write comments – the technological world means families can look at ePortfolios when they are able to – any time of the day making the opportunities to respond more timely (Leslie, teacher, Final Survey, August, 2014).

Table 7.14 Impact of ePortfolios on parent and whānau engagement (data from the Final Survey, coded responses)

Impact	Number of teachers who recognised this (n=9)
Evidence of learning seen in a timely manner	5
Deeper reciprocal and responsive relationship	5
More engagement through contribution and conversation	4

7.1.8 Possibilities for transition to school

The Final Survey asked the teachers what their views were on using ePortfolios as a tool to assist children to transition successfully to school. The

responses showed that this was already happening. The teachers had considered what benefits allowing the children's New Entrants teachers access to the portfolios might have and had decided that if parents and whānau wanted this to happen then they would encourage it. Six of the teachers felt that the ePortfolio would be more effective for transition to school processes than the paper-based portfolio. One teacher did not think it would be effective and two teachers were unsure.

Table 7.15 Effectiveness of using ePortfolios as a tool to assist children's transition to school (data from the Final Survey, checklist)

Effectiveness	Number of teachers who thought this (n=9)
More effective	6
Less effective	1
Unsure	2

The teachers who thought that the ePortfolios would be more effective in transition to school than their paper-based counterparts noted that this was because explicit links could be made to *Te Whāriki* and therefore to the Key Competencies in the New Zealand School Curriculum. Through the ePortfolios Erica thought that as ECE teachers they could "advocate for play based, holistic, learning to learn over time – this starts from the baby room" (Erica, teacher, Final Survey, August, 2014). Leslie commented that by reviewing the ePortfolios new entrant teachers would be able to develop a broader knowledge of who the child was as a learner by seeing multiple perspectives. She wrote:

> With all teachers writing for all children more so through ePortfolios the teachers at school will be able to gain multiple perspectives into what that child is as a person and as a learner. The teacher will then have the knowledge to best support that child transitioning into their classroom, ePortfolios are easier to read and are accessible when the teacher is ready (Leslie, teacher, Final Survey, August, 2014).

For Meg the reason that the ePortfolios would be more effective for transition to school was simple. It was because, she noted, "teachers [of new entrants] can have access to the children's ePortfolio prior to them starting school" (Meg, teacher, Final Survey, August, 2014). At the time that the Final Survey was administered two new entrants teachers had been given access to two children's

ePortfolios however no feedback had been received on this initiative by the ECE setting.

The teacher who felt that ePortfolios wouldn't be effective as tools for assisting children to transition to school felt that the same would apply to paper-based portfolios. She noted "I'm not sure if teachers will be willing to take the time to read" (Marie, teacher, Final Survey, August, 2014).

Finally the two teachers who were unsure if the ePortfolios would be more or less effective than the paper-based portfolios for transition to school suggested that this was because the ECE setting already had an effective transition to school tool in place. When the children left the ECE setting to go to school they were given two copies of a specially made book which contained a selection (5) of their Learning Stories, each linked to a competency in the New Zealand School Curriculum, one for them to keep and one for them to take to school. Eilish felt that this was effective because it gave children a transition tool in a "physical format that enables the child to physically take something to school to share with their teacher and other peers" (Eilish, August, 2014).

7.1.9 Children and teachers interacting with ePortfolios

The following photo observations provide examples of the way that the children and teachers were interacting with their ePortfolios in the ECE setting. At the time of undertaking the observations only two teachers were actively using the ePortfolios on the floor with the children on a regular basis. At the end of the research period this had increased dramatically and most of the teachers were using the ePortfolios in some way on the floor, as identified in the Final Survey responses. This increase occurred because the teachers had become more confident in using the technology associated with ePortfolios.

I want to paint a tiger!

Michael had been painting for a while and had several images on his picture. He did not appear particularly happy with any of them so he approached Leslie and said "I want to paint a tiger". Leslie asked Michael what

he thought a tiger might need to have in a painting. He responded with "I don't know". Leslie reminded Michael of the time he had painted a dog and she had captured this in a learning story for his ePortfolio. Leslie suggested that they look at the story together to see if this would help Michael with his painting of a tiger. Leslie sat with Michael at the art easel and together they revisited the learning story and Michael was able to recall what he needed to add for his picture to look like a tiger. Alongside revisiting Michael's learning story Leslie was able to use the tablet to find a picture of a tiger on the internet to further support Michael with his painting. Leslie moved back and forth between the picture of the tiger on the internet and Michael's previous learning story in his ePortfolio.

Figure 7.4 Michael and his tiger painting

Discussion

By using Michael's ePortfolio to revisit a past learning experience Leslie was able to help him recall what he needed to add to his painting to achieve his goal of painting a tiger. By using the tablet to do this Leslie could easily access a picture of a tiger on the internet and they were able to go back and forth between the two resources until Michael had produced a painting of a tiger that he was happy with. In the Final Surveys the teachers had identified the value of ePortfolios for helping children to recall, reconnect with and restart previous learning. They thought that the ePortfolios were easier to use for this than the paper-based portfolios. This was demonstrated in this observation as Leslie was very quickly able to find the story for Michael that she recalled and was further able to support this by comparing the story to pictures on the internet.

Using ePortfolios alongside paper-based portfolios

Charlotte and Isabel had been looking at their paper-based portfolios together. Georgina approached them and asked if she could look at the paper-based portfolios with them. As she sat down Charlotte noticed that Georgina had her iPad. Charlotte asked if they could look at her ePortfolio too. Charlotte, Isabel and Georgina spent some time reviewing the children's ePortfolios and comparing them to what was in their paper-based portfolios. This sparked Milly's interest and she asked Georgina if she could look at her ePortfolio as her paper-based portfolio wasn't at the ECE setting at that time.

Figure 7.5 Charlotte, Isabel, Milly and Georgina interacting with paper-based and ePortfolios

Discussion

By using the ePortfolio alongside the paper-based portfolios Georgina was able to extend on the learning that Charlotte and Isabel were recalling. This was because she was able to play the videos which supported the learning but could not be included in the paper-based portfolio. Milly really liked to look at her paper-based portfolio but it was very rarely at the ECE setting as it was taken home often and was not brought back for long stretches of time. Every time I visited the ECE setting Milly wanted to show me her paper-based portfolio and it was never there. In the Final Surveys the teachers had noted that the absence of the paper-based portfolios meant that they were not always able to revisit learning when they wanted to, and the introduction of the ePortfolios had eliminated this issue. By being able to access Milly's ePortfolio Georgina was able to include her with Charlotte and Isabel in the experience of recalling learning.

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"I don't feel very well"

Tori had approached Leslie and told her that she was not feeling well. Leslie suggested that they sit on the couch together and look at some books to see if this helped Tori to feel better. Tori asked Leslie if they could look at her ePortfolio instead. Jordan very quickly joined Leslie and Tori on the couch and looked at Tori's portfolio alongside them. Jordan asked if they could look at his stories and videos too. They were joined on the couch by Simon who sat alongside the group and looked at a book, occasionally glancing across to look at what was on Leslie's tablet.

Figure 7.6 Using ePortfolios to settle a child who feels unwell

Discussion

Tori was aware that Leslie was able to access her ePortfolio on the tablet that she was carrying. In the teacher reflections (7.2 below), Leslie and Georgina identified that they considered that the children had become very technologically savvy in a short space of time. They were aware of how the ePortfolios worked and knew where they could access them. In this observation Leslie was able to share Tori's ePortfolio with her to help her feel settled and not long after this interaction she was immersed back in centre life, participating in other learning experiences. The observation also showed the interest that children had in each other's ePortfolios, particularly the videos, and Leslie, Tori and Jordan watched these several times.

7.2 Teachers reflective responses

Over the course of the research project three teachers chose to write reflections on the changes that had occurred in the ECE setting since the introduction of ePortfolios. This section will share their reflections.

7.2.1 Erica

Erica's reflection begins with a question from her husband. He was inquiring after her wellbeing after having noticed her spending a lot of time at home working on her Learning Stories and learning moments on Educa. This question caused Erica to wonder if the ePortfolio system was enabling her to work "smarter not harder, or just work harder" (Erica, teacher, reflection, February, 2015).

Since becoming an early childhood education teacher Erica had always felt passionate about assessment for learning. As the supervisor of the ECE setting she had a vision for formative assessment. Erica wanted to develop a shared culture among the teachers that showed that learning and teaching was an important feature of what they did at the ECE setting, and how they did things. She wrote:

> Assessment for learning has always been a passion and the journey at [the ECE setting] for me has been a long and always linear one. One of my visions for the centre was to create a culture whereby learning and teaching was evident when you walked through the door. Experience has proven that this is strongly reliant on the passion, conviction and dedication of the teachers in your team (Erica, teacher, reflection, February, 2015).

At the onset of the ePortfolio study Erica could see great potential in the system to help teachers grow in their abilities to write Learning Stories and to plan effectively for individual children and the group as a whole. She surmised that the key to doing this was to engage the teachers in each other's Learning Stories and planning though the children's ePortfolios. Erica felt that the ePortfolios would be "a tool for assessing the knowledge, skills and dispositions of the children and show we could respond to switch the children onto learning" (Erica, reflection, February, 2015).

Greater professionalism

Even though the teachers had made a commitment to share and comment on each other's Learning Stories prior to the implementation of the ePortfolio system, Erica had seen a massive shift in the way they were doing this once ePortfolios were introduced. Through Educa the teachers were able to access the most current pieces of documentation with ease. This led to connections being made across the entire teaching team about what learning was being noticed, recognised and responded to. Erica commented that it was rewarding for teachers to see teaching and learning in action. "Teachers were getting excited about the multiple layers of documentation presented in the ePortfolios" (Erica, reflection, February, 2015).

Erica noticed that the teachers were engaging with the ePortfolios in multiple ways and on a regular basis. This was because of the accessibility of the ePortfolios through various forms of IT. They were reading the ePortfolios at home, in the staff room and on their smartphones. The teachers were also focussing on their writing as part of ongoing performance appraisals. Erica noted "Teachers were setting goals in their performance appraisals around developing their writing and to some degree were held accountable by the rest of the team and families for their contributions" (Erica, reflection, February, 2015).

At the beginning of the ePortfolio journey Erica was approving all of the teachers' Learning Stories and learning moments before they were able to be accessed by parents and whānau. As time went on she was sending the stories back for reworking less and less. Towards the end of the data collection period Erica rarely had to get the teachers to make changes to their formative assessment. However, she chose to continue to be the approver for all of the documentation. This was because by regularly reviewing what the teachers were writing Erica felt that she was remaining connected to the children, teachers, parents and whānau. The ePortfolios were helping Erica to develop and maintain strong relationships.

Link between ePortfolios and enrolment

Erica felt that the current strength in roll numbers at the ECE setting could be directly attributed to Educa. This was because, she wrote, the system had allowed the teachers in her team to achieve richness in their formative assessment documentation through "the multiple layers of voices" (Erica, reflection, February, 2015). Within the community, parents and whānau were making comparisons between their children's ePortfolios and those of others at different settings. The word-of-mouth recommendations based on the relationships developed through the ePortfolios and the strength of the teachers formative assessment practices had become an excellent marketing tool for the ECE setting.

It appears from Erica's reflection that she and her teaching team were in fact "working smarter, not harder" as Erica had pondered at the beginning of her reflection.

7.2.2 Georgina

Georgina based her reflection on the three areas in which she had noticed the most change since the introduction of the ePortfolios. These were benefits for children, benefits for families and benefits for teachers.

Benefits for children

Georgina had noticed several benefits for children that the ePortfolios afforded. She felt that the children had been very quick to adapt to the technology. They knew how to access their ePortfolios and were eager to do so. They liked to scroll through their stories and to discuss and reflect on what was happening. Many of the children had taken an interest in each other's ePortfolios and were able to identify Learning Stories and moments in other children's ePortfolios that were of interest to them. With the introduction of ePortfolios, opportunities to reflect on children's learning and experiences with them were immediately available. This had not always been the case with the paper-based portfolios as they were not always available. Georgina noted "This had been a problem in the past when I have wanted to revisit learning with a

child only to find that their portfolio book is at home" (Georgina, reflection, February, 2014). Through ePortfolios, children were able to contribute to their learning by adding their voice to the Learning Stories "on the floor". Georgina felt that as teachers were writing the stories alongside children that the children had direct input into what photos or videos they wanted included, how the documentation should look and what learning they valued. Georgina considered that the ePortfolios provided children with another form of interesting and meaningful literacy experience as they recalled, reconnected with and restarted their learning through the ePortfolios. Furthermore, Georgina wrote, it was easier to keep track of which children had Learning Stories and to ensure that their formative assessment documentation was up to date. Finally the ePortfolios had increased the opportunities for detailed conversations with parents and whānau about their children's learning and experiences. Georgina noted that this was particularly beneficial for children who had extended family that lived out of the area. She wrote:

> The ePortfolios opens [sic] up opportunities for more in depth communication for children with family members out of town who don't have access to the paper-based portfolios. These family members can contribute to the children's learning journey though the Educa programme. I have had discussions with some children about their grandparent's comments, photos and stories. (Georgina, reflection, February, 2014)

Benefits for families

Georgina firmly believed that families were feeling more connected and involved with their children's learning since the introduction of ePortfolios into the ECE setting. She felt that parents and whānau were engaging in more conversations with the teachers about their children's learning because they were reading the formative assessment in the ePortfolios regularly. Parents and whānau were able to access their children's ePortfolios anywhere at any time and Georgina thought that this was hugely beneficial. She wrote:

> Parents/families can access it anywhere at any time, e.g. get emails at work and immediately see what their child has been interested in and focussed on through stories, learning moments or videos and can provided immediate feedback. It is more user friendly, easily accessible and families feel more freedom and ownership to contribute as evidenced by the number of families contributing online compared to contributions in profile books. Families can write comments, share information relevant to a teacher's story or they can

write their own story, adding photos or videos from home. (Georgina, reflection, February, 2014)

Georgina again noted the benefits for extended family that the ePortfolios offered. These family members were able to feel a part of the ECE setting and of the children's learning and experiences. Georgina noted that she had "found this particularly informative in learning more about a child's cultural and extended family background" (Georgina, reflection, February, 2014). The final benefit Georgina noted for families was that messages and notices could be communicated easily through Educa. This also saved on paper use.

Benefits for teachers

Georgina noticed that the ePortfolio system enabled teachers to save time as they were able to use the ECE setting's tablets to upload photos and videos immediately to the ePortfolios and to compose formative assessment directly into the template on Educa as the learning was happening. She felt that since the introduction of the ePortfolio system that teachers felt rewarded when writing formative assessment. They knew that the stories were being read and commented on by parents and whānau and that they could then extend on the assessment from these conversations and comments. The connections between home and the ECE setting had also been strengthened through the ePortfolio system. Georgina wrote "I think it has added to the relationships I have with my key children's families as I refer to stories advocating for children's learning and know parents will usually have read them" (Georgina, reflection, February, 2014).

Georgina said that the ePortfolios had added professionalism to their roles as teachers. They were more accountable for what they were writing as the formative assessment documentation was being read by a much wider circle of people including parents, whānau and other teachers. Through the ePortfolios teachers were able to see an overall picture of learning that was valued in the ECE setting and also how other teachers were noticing, recognising and responding to learning. This meant that the conversations between teachers

were reflective and comprehensive. She noted "It enables teachers to look at the opportunities and possibilities for ongoing learning and to communicate this to families and other teachers. For teachers this provides an easy way to reflect and make links to children's learning" (Georgina, reflection, February, 2014).

Georgina deemed that the benefits of ePortfolios were many and she could not imagine going back to the old system of having only paper-based portfolios.

7.2.3 Leslie

Leslie began the journey with a certain amount of anxiety about trialling the ePortfolios. She did not feel confident in her technological skills and although she noted that change was exciting it could be hard to let go of the known and familiar ways of doing. Halfway through the research project Leslie's confidence had grown and her enthusiasm for ePortfolios had changed dramatically. She felt that there was no way that she could go back to paper-based portfolios as the only formative assessment documentation tool. Like Georgina, Leslie was able to recognise benefits for children, families and teachers that had arisen through the introduction of ePortfolios.

Benefits for children

The videos that were being uploaded to the children's ePortfolios added a different dimension to children's learning journeys, Leslie thought. The children were getting more formative assessment documentation written for them since the ePortfolios were introduced. Leslie wrote "We are writing both Learning Stories and learning moments creating a more holistic view of the child – the ePortfolio is capturing more of their interests, their strengths and their passions" (Leslie, reflection, January, 2014). The children were also getting wider perspectives in their ePortfolios as more teachers were writing for all children. The responses from parents and whānau in the ePortfolios were valued by the children, Leslie felt that they particularly enjoyed being able to share photos from home with teachers and their peers. Leslie considered that children were able to see their own development over time through the ePortfolios and could

recognise how they had grown through their learning experiences. The final benefit Leslie noted for children was that they were able to become familiar with the technology required to access their ePortfolios, they had become competent with using the ECE setting's tablets and at times they had even shown her how to use particular features.

Benefits for families

Communication between parents, whānau and teachers had been strengthened through the use of the ePortfolios. Parents and whānau were able to access their children's ePortfolios when and where they chose, with the result that they were contributing more. Leslie alleged that the written comments, stories and photos added to the ePortfolios by parents and whānau were hugely valuable for children's learning. Leslie felt that through the ePortfolios parents and whānau were able to share "real moments of the children engaging in their work" (Leslie, reflection, January, 2014). Leslie thought that since the introduction of ePortfolios parents, whānau and teachers had been "working closer together to extend and share in the learning happening for children" (Leslie, reflection, January, 2014). Finally, Leslie noted: "ePortfolios have bridged the gap in all children's portfolios – clearer links can be made between home life and centre life – sharing in the learning journey for the children and providing improved learning outcomes for them" (Leslie, reflection, January, 2014).

Benefits for teachers

Leslie considered that the teacher's formative assessment practices had changed since the introduction of the ePortfolios. The framework provided in the ePortfolios (the story, identifying what learning was happening and reflection on opportunities and possibilities) meant that the intention of the learning story or moment did not get lost, as it sometimes had in the paper-based portfolios where these aspects were often "muddled together". Leslie was including more literature in her formative assessment. Through this she felt that she was "advocating for our practice, our values and informing families of the value of their child's play within that moment" (Leslie, reflection, January, 2014). Finally

for teachers Leslie felt that the ePortfolios system was more effective and more efficient than the paper-based portfolios. They could use the tablet to record Learning Stories and moments as they were happening, and these now often included the child's voice. The formative assessment documentation could be uploaded for parents and whānau to see on the day it had been written and teachers could add formative assessment from multiple venues when they wanted to do so.

One special family

Leslie shared the following example of one family's journey with ePortfolios.

> One special family – within this journey there is one particular family who stand out to me. They have two children at [the ECE setting] and both the parents and the grandparents have taken to this way of sharing the children's learning journeys. They will often write comments on the stories, write their own stories responding to the learning happening within the centre and vice versa. These children's ePortfolios have become so powerfully rich and I think this is what learning in the 21st century looks like. A more collaborative approach with families – closer relationships where the outcomes for children are so so so rich. (Leslie, reflection, January, 2014)

Leslie said that ePortfolios provide a platform for sharing children's learning. Through this way of documenting formative assessment teachers are able to bridge a gap between children's homes and the ECE setting. Leslie considered that the increased engagement in the children's learning by parents and whānau that had occurred since the introduction of ePortfolios was extremely valuable for children and teachers.

7.3 Parent and whānau survey responses

The data from two surveys will be discussed in this section. The Midway Survey administered in February 2014 received 28 individual responses from parents and whānau. Eighteen parents and whānau completed the Final Survey in August 2014. The respondents could have been parents and whānau members whose children had been at the ECE setting for some time and those who were newer to the setting.

7.3.1 Access, contributions and sharing – ePortfolios

Access

By February 2014, when the ePortfolios had been implemented for just over six months, 100% (28/28) of the respondents to the Midway Survey had accessed their child's ePortfolio. Parents and whānau were accessing the ePortfolios regularly. This ranged from daily to monthly, with some parents and whānau accessing the ePortfolio whenever they received a notification that something new had been added.

Table 7.16 How often parents and whānau were accessing their child's ePortfolio (data from Midway Survey, checklist)

Frequency	Number of parents and whānau who did this (n=28)
Weekly	11
When notified that something new had been added	8
Fortnightly	5
Daily	4
Monthly	1

The parents and whānau who responded to the Midway Survey were mainly accessing the ePortfolio system at home. Several were accessing it at work as well, with one respondent identifying that they only looked at the ePortfolio at work as they did not currently have a computer at home. Some parents and whānau were also accessing their child's ePortfolio when they were away from these two places.

Table 7.17 Where parents and whānau were accessing the ePortfolios (data from Midway Survey, coded responses)

Where	Number of parents and whānau who did these (n=28)
Home	28
Work	12
Away	8

Parents and whānau were accessing their children's ePortfolios for several reasons. They were using them to share what was happening at the ECE setting with family and friends. Matilda wrote that she used the ePortfolio to

"show off to the grandparents…grandparents love it! Very popular with the extended family" (Matilda, parent, Midway Survey, February, 2014).   Others were using the ePortfolio to talk with their children about what they had been doing while they were at the ECE setting and were adding contributions on behalf of their children. Caroline noted:

> I look at stories with my son and we talk about what is happening. It is a great talking point plus an easy way for me to see how he is developing while at daycare. We have also uploaded our own story so he can share with daycare what he had done on holiday. (Caroline, parent, Midway Survey, February, 2014)

Some parents and whānau members were accessing the Portfolio so they could see their children's development and learning. Others were accessing the ePortfolios to make contributions of their own. Teresa noted "I have added a couple of stories myself and love going through the ePortfolio with family" (Teresa, parent, Midway Survey, February, 2014). Two respondents liked to read the various notices posted on the ECE settings Dashboard in the ePortfolio; this kept them in touch with what was happening at the setting.

Table 7.18 How parents and whānau were using the ePortfolio system (data from Midway Survey, coded responses)

Use	Number of parents and whānau who did this (n=28)
To see child's development and learning	10
To share contents with children	9
To share contents with family and friends	5
To make contributions	4
To read notices	2

The majority of parents and whānau were accessing the ePortfolio rather than the paper-based portfolio most of the time (27/28).   One respondent indicated that they use both systems about the same amount. As with the teachers, parents and whānau were only interacting with their children's paper-based portfolios when the interaction was initiated by their children. Petra noted "Since ePortfolios I never access the paper-based one, except if my daughter wants me to at the centre, which has only been one or two occasions" (Petra, parent, Midway Survey, February, 2014) and Christine wrote "To be

honest I haven't brought it home. [Child's name] has bought it home once"
(Christine, parent, Midway Survey, February, 2014).

Several of the parents and whānau who responded to the Midway Survey had given access to other family members and friends. The most common group granted access was grandparents, with 14 out of the 28 respondents having done this. Others who had been given access to the children's ePortfolios were partners, friends and aunts/uncles. Eight of the respondents had not given access to anyone else.

Table 7.19 Who parents and whānau have given access to the ePortfolios too (data from Midway Survey, coded responses)

Who has access	Number of parents and whānau who did this (n=28)
Grandparents	14
No-one else	8
Partner	3
Friends	2
Aunt/uncle	1

Caroline said that she granted access to extended family because:

> Nana takes [child's name] to daycare in the morning as I have a new baby, so this is a great way for her to also feel included and see what is happening at the daycare with [child's name]. She can also see the newsletters and notices which is useful in terms of knowing what is coming up and what [child's name] might need to take to daycare (Caroline, parent, Midway Survey, February, 2014).

Contributions

Nineteen of the respondents to the Midway Survey reported that they were making contributions to their children's ePortfolios. Parents and whānau contributions were being added at intervals ranging from occasionally to weekly.

Table 7.20 Frequency of parent and whānau contributions (data from Midway Survey, checklist)

Frequency	Number of parents and whānau who did this (n=28)
Occasionally	5
Six monthly	3
Every two months	3
Monthly	3
Fortnightly	3
Weekly	2

The types of contributions being made were varied. The most common contribution of parents and whānau were comments. Shelley noted that she commented frequently and that she thought these comments were important to affirm what the teachers were doing. She wrote "I comment on almost every story. I do this because I value the input staff give and want to encourage them for all the valuable work they do" (Shelley, parent, Midway Survey, February, 2014). Other contributions made by parents and whānau were Learning Stories or moments and photos.

Table 7.21 Contributions made to the ePortfolios by parents and whānau (data from Midway Survey, coded responses)

Contribution	Number of parents and whānau who made this contribution (n=28)
Comments	13
Learning Stories/moments	8
Photos	6

Nine of the respondents indicated that they did not make contributions to their children's ePortfolios. Four respondents noted that this was because they did not have the time to do so. The others all had different reasons for not contributing:

➢ "Not felt the need to yet. My partner has" (George parent, Midway Survey, February, 2014).

➢ "Did not really know about this aspect" (Finn parent, Midway Survey, February, 2014).

➢ "Lately I prefer to observe" (Charlotte parent, Midway Survey, February, 2014).

➢ "I discuss my child a lot with the teachers in person, so don't really use this format to communicate" (Fiona, parent, Midway Survey, February, 2014).

➤ "I just haven't uploaded the videos/pictures yet" (Sam, parent, Midway Survey, February, 2014).

Ten of the extended family members and friends that had been given access to the children's ePortfolios had also made contributions. These were generally comments but one had added a learning story and photos.

> They contributed a story and pictures about [child's name] going down the big slide at the Lake all by himself. He showed real independence and confidence and it was great that they were able to share this with [child's name] teachers (Caroline, parent, Midway Survey, February, 2014).

Sharing

Parents and whānau were taking time to look at their children's ePortfolios with them. Twenty-three respondents to the Midway Survey indicated that they did this. Parents and whānau were looking at the ePortfolios with their children on anywhere from a daily basis to every six months. Several were doing this whenever they were notified that a new story had been added (either by receiving an email of from a conversation with a teacher).

Table 7.22 How often parents and whānau look at their children's ePortfolios with them (data from Midway Survey, checklist)

Frequency	Number of parents and whānau who did this (n=28)
Monthly	6
Whenever there was a new entry	5
Every two months	4
Fortnightly	4
Weekly	2
Daily	1
Every six months	1

There were four reasons that parents and whānau were looking at their children's ePortfolios with them. Twelve parents and whānau did this to read the Learning Stories and learning moments together, eight looked at the ePortfolios with their children to view the videos and photos together, two did this to add their child's voice to the ePortfolios and one respondent used the ePortfolio with their child to make links to home.

The five respondents who indicated that they did not look at their children's ePortfolios with them had either not thought to do so (3/5) or viewed the ePortfolio as something that was for adults to use only (2/5).

Only four parents and whānau who responded to the Midway Survey had looked at their children's ePortfolios with a teacher. This occurred when the teacher was either working on a new story and wanted to show the parent or whānau member the progress or when the teacher wanted to share an achievement, experience or video.

Twenty-four parents and whānau identified that they hadn't looked at their children's ePortfolio with a teacher. There were many reasons why parents and whānau did not spend time looking at the ePortfolios with the teachers. Some felt that they did not see the teachers often or that when they did the teachers were too busy to stop and spend time looking at the ePortfolios. Others identified that this was difficult to do at the ECE setting as a device with online access wasn't always readily available. Some parents and whānau felt that they still did not have time to do this while they were at the ECE setting, just as with the paper-based portfolios. The final group felt that they had no reason to do so, only looked at the ePortfolios at home, or simply hadn't thought of doing so at all.

Table 7.23 Parent and whānau reasons for not viewing the ePortfolios with a teacher (data from Midway Survey, coded responses)

Reason	Number of parents and whānau who had this reason (n=28)
There is no reason to	10
Haven't had time to	4
The teachers are too busy	3
Difficult to access a device at the ECE setting	3
Have not thought to	2
Only view the ePortfolio at home	2

In regards to spending time viewing the ePortfolios alongside a teacher Teresa wrote:

We have talked about some of the things that have been posted and I feel that we have good communication with them on a daily basis. I feel that the teachers are excellent and put such detailed stories in the ePortfolios that we don't really have to sit down and go through them together. I am also confident enough to bring anything up that I have seen in the ePortfolio and know I can have a good discussion with his teacher if need be (Teresa, parent, Midway Survey, February, 2014).

7.3.2 What has changed with the paper-based portfolios

Half of the parents and whānau who responded to the Midway Survey were no longer looking at the paper-based portfolios (14/28), whilst 13 of the respondents were still accessing them (one respondent skipped this question). The majority of parents and whānau who were still interacting with the paper-based portfolios were only doing this, like the teachers, when their children initiated the interaction, generally when the paper-based portfolio was brought home. This was also the case in the Final Survey where 13 of the 18 respondents noted that they only looked at the paper-based portfolio when their children initiated the interaction. The other respondents were looking at the paper-based portfolio when a teacher initiated the interaction, when they wanted to share it with extended family, or when they wanted to revisit older content that wasn't contained in the ePortfolio.

Table 7.24 Parent and whānau interaction with the paper-based portfolios after the introduction of ePortfolios (data from Final Survey, coded responses)

When	Number of parents and whānau who did this (n=18)
Child-initiated interaction	10
Teacher-initiated interaction	1
With extended family	1
Revisiting previous content	1

Some of the parents and whānau had noticed a change in the way their children were interacting with the paper-based portfolios since the introduction of the ePortfolios whilst others had not. The parents and whānau were split on which system their children preferred. The majority of the parents and whānau who responded to this question felt that their children liked the paper-based portfolio better, although nearly all qualified this by saying that the children could not access the ePortfolio by themselves. Olivia noted "They are not really

worried about the paper-based one anymore, they seem to be more into the technology and their ePortfolios for some reason seem to develop more discussion – perhaps because of the quality of the photo and video interaction" (Olivia, parent, Midway Survey, February, 2014). And Ingrid wrote:

> I think my child likes the paper-based better as they identify as it is a book and will sit and turn the papers and read it with us. They cannot use the ePortfolio on their own and therefore it is only with us that they look at it. I think of it more as a parent tool than a child one (Ingrid, parent, Midway Survey, February, 2014).

Table 7.25 Parent and whānau thoughts about which portfolio system their children prefer (data from Midway Survey, checklist)

Preference	Number of parents and whānau who recognised this (n=28)
Paper-based portfolio	11
Likes both the same	5
ePortfolio	4
Unsure	4

In the Final Survey parents and whānau were asked to identify what they thought were the benefits of the paper-based portfolios. The majority thought that it was vitally important to retain the paper-based portfolios as they were something tangible the children could interact with when they chose to (16/18). Other benefits of the paper-based portfolios identified by the parents and whānau were that they would be a keepsake for their children, that the paper-based portfolio provided a "back-up" for the ePortfolio system and that they were personal and creative.

Table 7.26 Benefits of paper-based portfolios (data from Final Survey, coded responses)

Benefits	Number of parents and whānau who recognised this (n=18)
Tangible item for children to interact with	16
Keepsake	3
Back-up for ePortfolios	1
Personal and creative	1

Alongside the advantages of the paper-based system the parents and whānau had identified some drawbacks. They felt that the paper-based portfolio was difficult to share with others outside of the ECE setting and that it was less

inviting to contribute to. They also alleged that it was not updated very often and when it was there was no notification of this. Other concerns were that paper-based portfolios used a lot of paper, that they could get damaged or lost, that they were bulky and that they took up space.

Table 7.27 Negatives of paper-based portfolios (data from Final Survey, coded responses)

Negatives	Number of parents and whānau who recognised this (n=18)
Difficult to share	6
Not updated often/not notified of update	3
Less inviting to contribute to	2
Can get lost	2
Easily damaged	2
Bulky/take up space	2
Time-consuming	2
Uses a lot of paper	1

7.3.3 Implications of ePortfolios

Seventeen of the 18 parents and whānau who completed the Final Survey indicated overwhelmingly that they would choose the ePortfolio system over the paper-based portfolio system. They felt that the ePortfolios were accessible and that they were easy to share with others. They liked the addition of videos to the ePortfolios and the extra dimension this brought to their children's learning journeys. The parents and whānau liked being notified when something new was added to the ePortfolio and also that they could easily comment on or add a contribution to their children's learning journey. This made the ePortfolios more interactive. The parents and whānau thought that their interactions with teachers had increased through the use of ePortfolios and that their communication with the ECE setting had therefore improved. One respondent noted that the ePortfolios were easy to store. Caroline captured several benefits when she wrote:

> Accessibility, notification, ability to share with designated family, ability to copy and use photos, the ability to share our own stories with daycare and to also add comments and participate in the story. Videos can be added which is a fantastic dimension to add to a portfolio as you can see your child in real time and enjoy the video with them – it encourages conversation and inclusion in their day's events. The added benefit of messages from daycare, newsletters and the ability for them to share information with us really makes this system

a fantastic complete package. I've already recommended to my sister, who will be promoting it to her daycare (Caroline, parent, Final Survey, August, 2014).

Kelly also noted quite a few benefits of the ePortfolio system:

It is far more interactive and you can see stories and contributions in "real" time and add your comments easily. It is able to be shared with friends and family that live some distance away. Being able to see videos of what the children are achieving is also a very valuable asset and the kids love watching themselves on the computer (Kelly, parent, Final Survey, August, 2014).

Table 7.28 Benefits of ePortfolios (data from Final Survey, coded responses)

Benefit	Number of parents and whānau who recognised this (n=18)
Easy to share with others	10
Accessible	10
Inclusion of videos	4
Increased interaction/communication with teachers and ECE setting	4
Able to add contributions easily	3
Receive a notification of addition	3
Easy to store	1

Some negative aspects of an ePortfolio system were identified by the parents and whānau. The main one was that they thought the ePortfolios were difficult for children to access. For some of the respondents this was because they did not allow their children access to the technology required.   Some parents and whānau were concerned that not every family would be able to access ePortfolios as they might not have the technology needed. Others feared there was a risk that the data could be lost and that the ePortfolios were not as creative as their paper-based counterparts. Christine felt that ePortfolios were "a sort of read and discard system – you don't tend to go back to it" (Christine, parent, Final Survey, August, 2014).

Table 7.29 Negatives of ePortfolios (data from Final Survey, coded responses)

Negative	Number of parents and whānau who recognised this (n=18)
Difficult for children to access	8
Some families may not have access to required technology	3
None	3
Risk of loss of data	2
Not as creative	1
Read and discard system	1

Only five parents or whānau members interacted with the ePortfolio alongside their children while they were at the ECE setting. The respondents who were doing this would use an iPad or tablet, smartphone or a computer to do this. The reasons that these respondents gave for interacting with the ePortfolio alongside their children at the ECE setting were:

➢ "To revisit learning" (Helen, parent, Final Survey, August, 2014).

➢ "Showing the teachers what he has been up to on the weekend" (Mere, parent, Final Survey, August, 2014).

➢ "Have only done this on a couple of occasion when a teacher has commented that they are writing a story and have called us into the office and shown us" (Kelly, parent, Final Survey, August, 2014).

➢ "So she can be aware that I'm interested in her daily activities and to give her the chance to explain the activity" (Will, parent, Final Survey, August, 2014).

➢ "Because I can access the information for myself as I don't need to have a physical version to be able to engage with or identify the information" (Liz, parent, Final Survey, August, 2014).

The majority of parents and whānau who did not interact with the ePortfolio alongside their children in the ECE setting indicated that this was because of time constraints. Others noted that they did this at home so there was no need to repeat the exercise at the ECE setting or that they had never really thought about doing so. One respondent mentioned that they had never been offered the opportunity to engage with the ePortfolio alongside their child whilst they were at the ECE setting.

Table 7.30 Reasons for not interacting with the ePortfolio alongside children at the ECE setting (data from Final Survey, coded responses)

Reason	Number of parents and whānau who indicated this (n=18)
Time constraints	6
Do this at home	3
Never really thought about doing so	3
Haven't been offered the opportunity to do so	1
Unsure	1

7.3.4 Changes to teachers' formative assessment practices

Sixteen of the parents and whānau who completed the Final Survey thought that they had noticed changes to the teachers' formative assessment practices. Only two respondents had not seen any changes and these respondents indicated that they were relatively new to the ECE setting and had only been there since the ePortfolios were introduced. Other parents and whānau had seen an increase in the frequency of teacher contributions, particularly Learning Stories and learning moments. Kelly noted "We have seen a marked increase in the number of entries in the children's ePortfolios and some entries that may have not been considered important enough before to add to a portfolio have been posted in the ePortfolio" (Kelly, parent, Final Survey, August, 2014).

Respondents had also noticed a change in the way the teachers were talking to them about their children's learning. They were making more reference to the contents of the ePortfolio and were talking more often about the learning they had identified in their stories with parents and whānau. Some parents and whānau had noticed an increased sharing of the ePortfolios both with themselves and with their children during the day. The teachers were using media in a more thoughtful way. Videos and photos added to the story rather than the story being based on them. Caroline wrote:

> The stories are captured more often, with far more pictures and also with videos - and from what I've seen there is a lot more sharing on tablets and participation from the children in terms of being able to see and enjoy the pictures (Caroline, parent, Final Survey, August, 2014).

One respondent had also noticed that the length of the teacher's Learning Stories had increased.

Table 7.31 Changes to teacher's formative assessment practices notice by parents and whānau (data from Final Survey, coded responses)

Change	Number of parents and whānau who noticed this (n=18)
Increased frequency of additions	7
Thoughtful use of media	7
Change in verbal communication	5
Shared more often	3
Length of stories had increased	1

7.3.5 Impact of ePortfolios on children's learning

Most of the parents and whānau who responded to the Final Survey considered that the introduction of ePortfolios had affected their young children's learning, with only four noting that they had seen no impact. The respondents could see greater engagement with their children's learning and experiences, from their children, themselves, teachers and extended family. There were more contributions to their children's ePortfolios from extended family and this added an extra layer to the children's learning journey. The inclusion of videos had had a positive effect on children's learning and one respondent noted that the ePortfolio had aided in their child's transition to school process. One parent or whānau member reported that because of the dashboard notice system that their child never missed out on events. Caroline provided an example of when she had seen an impact on her child's learning directly from the introduction of the ePortfolios:

> We recently saw a great impact in that our son hadn't progressed with painting past the usual scribble and he is four years old. We've been waiting to see some kind of attempt at drawings shapes, and in particular, people which many of the kids are attempting. Our son's teacher noticed his interest in painting a person one day and encouraged him to paint further. To help pique his interest they got a tablet and scrolled through the photos in his ePortfolio to find people that he might be interested in painting. That day, he painted Mum, Dad, Buddy (his dog who had visited the centre), his sister (who also attends the daycare) and himself. It was a real breakthrough. I think the opportunity to look at photos and paint people that were important to him really helped encourage him to keep trying - and his last picture of himself was the best. In turn, his progress on these paintings was captured and turned into stories on his ePortfolio - and this has encouraged and motivated him further (Caroline, parent, Final Survey, August, 2014).

Table 7.32 Impact of ePortfolios on children's learning (data from Final Survey, coded responses)

Impact	Number of parents and whānau who recognised this (n=18)
Greater engagement with learning and experiences	8
More contributions from others	4
No impact	4
Positive effect of videos	2
Aided in transition to school	1
Notification of events	1

All 18 respondents felt that the increased parent and whānau engagement with children's learning through the ePortfolios would have positive benefits for their children's learning journey. Crystal wrote "I think they are tremendous. It shows children that you are also part of the [setting's name] programme and experience. Removes a divide from ELC [early learning centre] and home in terms of learning" (Crystal, parent, Final Survey, August, 2014). They felt strongly that ePortfolios had strengthened relationships and through parent and whānau contributions links were being made between home and the ECE setting (16/18). Some respondents also noted that communication with teachers had improved and that through responding to teachers' Learning Stories and learning moments they were showing that they valued what the teachers did. Kelly noted:

> It increases the child's sense of wellbeing and belonging within the centre and allows the teachers to see an insight into their family life and the aspirations their parents/family have for them. It also values the work the teachers are doing and gives them a sense of achievement that their contributions to the child's learning are appreciated and valued (Kelly, parent, Final Survey, August, 2014).

7.4 Interviews with management

In March 2015, just over a year and a half after the introduction of ePortfolios to the ECE setting, interviews were undertaken with the service's management team. The following people were interviewed:

i) Erica – Supervisor

Erica had been with the Trust since 2006 when she started as a Home-based Visiting Teacher. She became Supervisor of the ECE setting in 2008.

ii) Sian – Director

Sian had been with the Trust for over 25 years. She started in 1986 as a Home-based Carer. From this she began relieving at the Trust managed settings and undertook her early childhood education training. On completion of her training she moved into a senior role at another of the Trust's settings before moving to the ECE setting in this study. Sian was

Assistant Director of the Trust prior to becoming Director in 2000, a position she held for 15 years.

iii) Toni – Administration Team Leader

Toni had worked for the Trust for nearly 20 years, in various administration roles. For the last 14 years she had led the administration team. As part of her role Toni was responsible for supporting the settings with projects implementation, as such she was heavily involved in initiating Educa into the ECE setting.

This section will discuss the findings of these interviews.

Engagement with parents and whānau through ePortfolios

All three members of the ECE settings management team agreed that they had seen increased parental and whānau engagement in children's learning through formative assessment practices since the intervention of ePortfolios. The increased engagement had culminated in a greater sense of partnership between the ECE setting and parents and whānau. Sian commented "It's [ePortfolios] the biggest thing since sliced bread when it comes to involving parents and building that partnership" (Sian, Director, Interview, March, 2015). Erica agreed that the partnerships with parents and whānau had been strengthened by the use of ePortfolios. She felt that this was because there was now greater communication between the ECE setting and home. She said "We've been able to strengthen the communication in ways that we haven't before and parents are contributing in ways that they haven't before" (Erica, Supervisor, Interview, March, 2015). Erica went on to note that this communication had also resulted in a stronger sense of community and that the contents of the ePortfolios had a direct link to this. She elaborated:

> It is not just about Learning Stories, it's capturing the essence of the community as well. It's almost how you make people feel, is if you do that then they give a little bit more which makes it [the sense of community] even better (Erica, Supervisor, Interview, March, 2015).

This meant that all the aspects of the ePortfolio system (formative assessment, dashboard and reporting tools) had contributed to the increase in communication and contribution.

Sian thought that the reason that the communication had increased between the ECE setting and home through the intervention of ePortfolios was because parent and whānau enthusiasm had increased in regards to formative assessment. This was, she said, because the platform meant that what was documented in the ePortfolios was happening in 'real time'. This was evident in the feedback that parents and whānau were placing in their children's ePortfolios. She provided the following example:

> Some of the feedback is, well I saw one where a parent said 'I was looking through the ePortfolio and then I realised that that's what she was wearing today'. It's instantaneous, it was there today so she [the parent] could see what was happening so she could contribute to that at the end of the day when she [the child] talked about it (Sian, Director, Interview, March, 2015).

Sian thought that this was particularly noticeable for extended family. Toni, on the other hand, remarked on the increase in engagement from immediate family members who did not often come to the ECE setting. She said "There's some families that Dad drops off and picks up every day so it's [the ePortfolios] really kept Mum in the loop" (Toni, Administration Team Leader, Interview, March, 2015).

Teachers' formative assessment practices

Again, Sian, Toni and Erica had all noticed changes to the teachers' formative assessment practices. The changes that they noted were significant and positive. When thinking about the Learning Stories and learning moments in the ePortfolios Sian said:

> In my opinion they are richer, they are written better in terms of grammar and English and language used. They are relevant. They're not duplicating, so when you used to pick up a portfolio and there would be eight stories about a child writing their name, they've not got that duplication now because teachers are looking back and adding to stories. I think when you look at the opportunities and the planning that happens for children it's really well thought out and really real for the child based on their ePortfolio (Sian, Director, Interview, March, 2015).

Toni believed that the way the teachers understood formative assessment documentation had changed with the intervention of ePortfolios. Their understanding of what learning was and how to document it had increased.

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She surmised "I think they just understand now what it means. They can look and recognise learning…they can recognise what they are looking at now" (Toni, Administration Team Leader, Interview, March, 2015). Sian agreed with this thought, and said "Staff get it. It's like a light came on one day, they just get it" (Sian, Director, Interview, March, 2015).

For Erica, who had been immersed in the project and who had been supporting her team throughout, there were many positive changes to the teachers' formative assessment practices. She felt that the teachers individual strengths were being highlighted more in the ePortfolios (for example Robin's interest in risk and challenge was well documented in the children's formative assessment). Erica noted that the teachers were challenging themselves to write meaningful and relevant stories; they were "responding in really authentic ways to the things that children come through the door with every day that are part of their family lives" (Erica, Supervisor, Interview, March, 2015). She considered that there were now multiple perspectives in the ePortfolios as teachers wrote joint Learning Stories and also stories about other teachers interacting with children. Erica noted that the dynamics in the team had changed; they were learning together to find the best ways to implement the ePortfolios. She said "I'd say it was peer learning. Or peer coaching like around documenting. So we're looking at each other's [stories] and going I really like the way they wrote it that way, and then having a go" (Erica, Supervisor, Interview, March, 2015). Finally Erica thought that the use of theory and literature had become stronger as teachers were making links between the learning that was being recognised and responded to and what they were reading or the professional development they were undertaking.

Other unexpected benefits
There were two unforeseen benefits which had arisen from the intervention of ePortfolios noted by Toni, Sian and Erica. The ePortfolios had become a great tool in the coaching process that was undertaken by management. Sian provided the following example:

Say I've had coaching with Erica, I can put those notes up in our conversation [on Educa], she'll respond pretty much straight away with reflections. I can respond to that and I can see what she's doing and what she's committing to with her staff (Sian, Director, Interview, March, 2015).

The platform also provided an excellent resource for teacher registration. The teachers who were completing teacher registration were using ePortfolios to show supporting evidence such as Learning Stories they had written, reflections and appraisal documentation. Sian noted that doing this seemed to be a natural progression from the implementation of the ePortfolios and would probably not have been something they would have picked up otherwise.

7.5 Emerging themes

A number of themes have emerged from the findings of the Final Surveys, ePortfolio analysis and teacher reflections.   Significant changes to the teachers' formative assessment practices meant that the teachers in this ECE setting were demonstrating several of the key tenets described as important features of successful formative assessment by authors such as Sadler and Black and Wiliam. The assessment practices of the teachers were putting the children's learning first and consequently the assessments were promoting the learning (Black, 2001, 2010; Black et al., 2004; Black & Wiliam, 2004; Sadler, 1989, 1998). It is clear, therefore, that a portfolio (either paper-based or online) which documents children's formative assessment and experiences in the ECE setting is vital to enable children to recall, reconnect with and restart their learning (see 5.6.1 and 7.5.3).

Furthermore, it was evident that there had been changes in the way parents and whānau were engaging with their children's learning through formative assessment in the ePortfolios.   The increase in parent and whānau engagement exemplifies Bronfenbrenner's (1979, 1988) conclusion that parents, whānau and the community should be involved in children's learning to ensure future educational success and enhanced adult lives.

Like the earlier findings (see Chapters Five and Six), this chapter has also identified that portfolios are a vital artefact in early childhood education to assist children to recall, reconnect with and restart learning experiences.

Finally, the changes in parent and whānau engagement and teachers formative assessment show a strengthening community of practice, the theoretical framework of this study, within the ECE setting. The community of practice which was already evident in the ECE setting at the start of the research had grown from its juvenile form to encompass all the components of a successful CoP as defined by Wenger and others (Lave & Wenger, 1991; Wenger, 1998, 2000, 2011, 2015a, 2015b; Wenger et al., 2002). These themes are consistent with those that have emerged from the previous findings chapters and will be discussed in more depth in the following sections.

Figure 7.7 Emerging themes - ePortfolios

7.5.1 Changes to teachers' formative assessment practices

The teachers' formative assessment practices had changed since the introduction of ePortfolios. These changes were recognised by teachers, parents and whānau. The quantity and frequency of formative assessment contributions to the children's ePortfolios had increased dramatically from what was included in their paper-based portfolios. The quality of the teachers writing had also changed. Their Learning Stories and learning moments were richer. They were noticing learning (the story), recognising the learning (what learning is happening here?) and responding to learning (opportunities and possibilities) in all Learning Stories and in some learning moments. The teachers were focussing the Learning Stories and moments on the learner, constructing purposeful and individualised formative assessment (Black, 2010; Black et al., 2004; Black & Wiliam, 2004; Sadler, 1989, 1998). The teachers were using resources such as research and theory to support their reflections on children's learning and they were making more frequent links to the early childhood curriculum, *Te Whāriki* (see Appendix Ten for examples). Parents and whānau had noticed that the teachers were using media in a more thoughtful way. The photos and videos now complemented the Learning Stories and learning moments, not the other way round as they had previously. Finally, teachers, parents and whānau agreed that the quality and depth of conversations about children's learning and their experiences at the ECE setting was deeper and that such conversations occurred more often. This meant that the relationships between teachers and teachers, teachers and parents and whānau and teachers and children were intentional, stronger, more reciprocal and responsive (Cankar et al., 2012; Daniel, 2009; Hattie, 2010; Howe & Simmons, 2005). These relationships have contributed to the strengthened community of practice within the ECE setting and in the community it serves (Lave & Wenger, 1991; Wenger, 1998, 2000, 2011, 2015a, 2015b; Wenger et al., 2002).

7.5.2 Changes to the way adults use the portfolios – increased engagement

The introduction of the ePortfolios saw a marked increase in parent and whānau engagement in their young children's learning which could have a direct impact on future educational experience and later life (Arndt & McGuire-

Schwartz, 2008; Bronfenbrenner, 1979, 1988; Douglass, 2011; Hango, 2007; Siraj-Blatchford, 2010; Waanders et al., 2007). Although parents and whānau were involved in the learning through the paper-based portfolios and verbal interactions with the teachers prior to the introduction of the ePortfolios, their involvement had increased in quality and depth since the intervention. The interactions between the parents, whānau and teachers had become centred on learning. Thus, learning conversations which invited the parents and whānau to be part of their children's learning had become commonplace. This meant that the important relationship between the ECE setting and home was strengthened as parents and whānau became more involved in their children's learning (Cankar et al., 2012; Hattie, 2010; Howe & Simmons, 2005). The parents and whānau had a clearer idea of what learning was valued at the ECE setting and how it was responded to by the teachers. The teachers considered that the parents and whānau had a deeper understanding of how learning occurred through the way the formative assessment was being written and how teachers' were responding to the learning. Parents and whānau response had become integral to children's learning. The adults in this study showed increased confidence in their engagement with children's learning. Teachers were more reflective and their conversations centred on learning and planning for learning, while the increased contributions made to the ePortfolios by parents and whānau affirmed what the teachers were doing and intensified their engagement with their young children's learning.

The ways that the teachers, parents and whānau were using the paper-based portfolios had changed since the introduction of the ePortfolios. Interactions with the paper-based portfolios were only occurring when they were initiated by a child. In the past the adults, particularly the teachers, had used the paper-based portfolios when they wanted to encourage children to recall, reconnect with or restart their learning. They were now using only the ePortfolios to do this. Similarly the parents and whānau were no longer taking the paper-based portfolios home intentionally. Although this still occurred, it was only when the children initiated the event.

The ePortfolios were recognised as a tool which could beneficially be used by teachers, parents and whānau to aid children's transition from the ECE setting to school. Links between *Te Whāriki* and the Key Competencies in the New Zealand School Curriculum could be clearly made. Also, the teachers thought that giving the children's New Entrants teachers access to their ePortfolios before they started school would mean that the those teachers would have a broader knowledge of who the child was as a learner prior to their starting formal schooling. Relationships between the child, family and teacher could also be nurtured before the child started school if the New Entrants teacher were given access to the ePortfolio.

7.5.3 Portfolios are vital for children's learning – recall, reconnect and restart

As identified previously, portfolios can be important artefacts which enable authentic learning journeys to be constructed throughout the individual's involvement in education (Anh & Marginson, 2012; Cohen, 1999; Goldsmith, 2007; Vygotsky, 1978; Wenger, 2015b). Teachers, parents and whānau all felt that the paper-based portfolios were vitally important to children's learning and must therefore remain available and accessible for children. The paper-based portfolios provided children with a tangible object for which they felt a sense of ownership. As the paper-based portfolios were readily available for the children and the ePortfolios were not, because these could only be accessed with the help of a teacher, parent or whānau member, children at the setting were observed accessing only their paper-based portfolios by themselves after the introduction of the ePortfolios. Any interactions with the ePortfolios involved a teacher or other adult. However, the teachers noted in the Final Surveys and their reflections that the children were requesting to access their ePortfolios more and more. It is assumed, then, that as the ECE setting provides children with the technology to look at their ePortfolios on their own whenever they choose, interactions with the ePortfolios will increase. When the technology is adequate to support this access then the children will be able to use the

ePortfolios, as they did the paper-based portfolios, to recall, reconnect with and restart their learning (see 5.6.1).

The introduction of ePortfolios had impacted on children's learning, nonetheless. The children's learning was being captured in a more timely manner. Parents and whānau were seeing these experiences in "real" time (see 7.1.7). The teachers were writing the Learning Stories and learning moments on the floor and they were uploading the supporting photos and videos to the ePortfolios straight away. The child's voice was far more evident in the Learning Stories and learning moments since the introduction of the ePortfolios. Children were dictating their own learning experiences and selecting which media were used to support these within their ePortfolios (as identified in 7.1.5 and 7.2). These things led to the teachers having a greater knowledge of who the child was as a learner, hence learning had become visible (Hattie, 2010). They were able to see the children's strengths, interests and passions developing through the various lenses of all the teachers who were contributing to their ePortfolios; and this had greatly increased when compared with contributions to the paper-based portfolios. As with the changes to the teachers' formative assessment practices, the impacts on children's learning which had developed from the introduction of the ePortfolios also strengthened the relationships within the ECE setting, and the links between home and setting were more apparent (Cankar et al., 2012; Cohen, 1999; Daniel, 2009; Hattie, 2010; Howe & Simmons, 2005).

7.5.4 A strengthening community of practice

The theoretical framework chosen for this study, communities of practice, proved to be accurate as the CoP in the ECE setting grew and strengthened. Several of the key components of a community of practice as identified by Wenger and others became evident, and each was impacted on by the intervention of ePortfolios. In chapter three I wondered if a community of practice was present at the beginning of this research. There was indeed a community of practice in place, however it was juvenile and had nowhere near reached its full potential (see figure 5.9). While the teachers, parents and whānau had a shared domain (or mutual engagement) – an interest in children's

learning through formative assessment and they were part of a community (or joint enterprise) with fledgling relationships being developed around the shared domain, they were not actively engaged together in the practice (or repertoire) of the community (Kerno & Mace, 2010; Kerno, 2008; Lave & Wenger, 1991; Liedka, 1999; Tummons, 2012; Wenger, 1998, 2000; Wenger et al., 2002). After the introduction of ePortfolios the relationship between the teachers, parents and whānau had become stronger and many were working together on the practice, forming a stronger community of practice (see figure 7.5). There was still room to grow and develop here, however, as the contributions from children had begun to have a stronger presence in the ePortfolios towards the end of the research period.

Figure 7.8 A strengthening community of practice
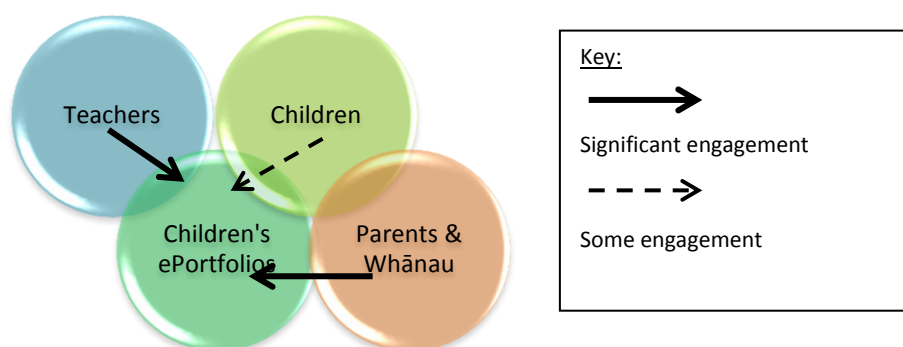
Membership

As noted in 3.4.1, one of the key components of a community of practice is participation (Kerno & Mace, 2010; Kerno, 2008; Nemec & LaMaster, 2014; Porter Kuh, 2012). To enable the practice to be achieved the members of the CoP must participate in the practice. At the onset of the research there was very little participation by parents, whānau and children in the practice of engaging in children's learning through documentation (see 5.5.2). After the intervention of ePortfolios, participation in the practice by parents and whānau had increased enormously. A significant number of parents and whānau had begun contributing to their children's ePortfolios and were thus engaging in the practice of children's learning (see 7.3.1). It is fair to say, therefore, that the membership of

the community of practice had become meaningful for the members as participation increased.

Legitimate Peripheral Participation

Indeed, as suggested in 3.4.2, parents and whānau had began the ePortfolio journey on the periphery of the community of practice. However, this quickly changed as they became familiar with the ePortfolio platform and became fully functioning members. It was assumed that children would become active participants in the practice, but, surprisingly, they were the members of the CoP who sat on the periphery. Towards the end of the research period this had begun to change as teachers were inviting children to become active in selecting what would be uploaded to their ePortfolios and were including their voices in the stories they were writing, as noted by several of the teachers in their Final Surveys, interviews and reflections.

Modes of Belonging

As noted in Chapter Three (3.4.2), there are three modes of belonging within a community of practice that members can fall into: engagement, imagination and alignment (Wenger, 2000). At the onset of this research I postulated which mode each member of the CoP might position themselves within after the introduction of ePortfolios.

Engagement

In the engagement mode, members of the CoP become engaged with the practice of the CoP (in this case, children's learning through formative assessment). Within this mode the members are beginning to know about the practice and may begin to produce artefacts which support the practice. I posited that the children, parents and whānau and teachers might all be positioned in engagement mode and indeed they were. The teachers, parents and whānau were actively engaging in the practice by contributing tangible items to the children's ePortfolios.   The children were engaging, too, as they viewed the contents of their ePortfolios with teachers, parents and whānau.

Members who are positioned in the imagination mode of the CoP are beginning to find new ways to contribute to the practice. In this study they were finding new ways of doing, belonging, becoming, and experiencing formative assessment which would contribute to an authentic learning journey for children. As with engagement, I surmised that children, parents and whānau and teachers could be positioned in this mode. After the introduction of ePortfolios the teachers were strongly positioned here as they worked alongside each other and with parents and whānau to find new ways of utilising the ePortfolios to enhance, strengthen and support the children's learning journeys through formative assessment. Some of the parents and whānau could also be placed in this mode as they began contributing tangible items to the children's ePortfolios that they had not contributed before. The example of "one special family" provided in Leslie's reflection (7.2.3) highlights this. Although there was no strong evidence to show that the children were operating in this mode I believe that they were definitely moving towards this as they became more active contributors to their ePortfolios.

Alignment

In the alignment mode of belonging, members of the CoP are making sure that their practice is aligned with the processes which may have an impact on the practice. This is the most advanced mode of belonging within a CoP and I proposed that the teachers might be functioning at this level by the end of the study. When the study began the teachers were in some disarray in terms of their formative assessment practices. As highlighted in Chapter Five, there were no set ways to complete formative assessment. There was also no shared understanding between the teachers of how they could work together to strengthen, enhance and support formative assessment for children. By the end of the study a cycle of collaboration between the teachers had been developed (see Figure 11.1). Their processes had become aligned, and through this they were achieving higher goals.

Identity

Through the course of this study each member's identity within the community of practice evolved depending on their mode of belonging, becoming rich and complex. Members' identities were also enhanced by the learning trajectory each member followed and by their engagement with the unfamiliar (ePortfolios). Depending on the level of engagement and the various ways of participating (such as tangible contributions and verbal contributions), member's identities either remained stagnant, grew slightly or flourished. The teachers developed strong identities, regularly contributing to the ePortfolios through formative assessment and being involved in finding new ways to strengthen, enhance and support this. They were involved in the practice on a local and global level. At the local level they were working together as a team to strengthen the practice, and on the global level they were sharing their learning with others beyond the early childhood setting[21]. As parents and whānau became much more visible in their children's learning journeys through their engagement with the formative assessment in the ePortfolios, their identities within the community of practice also grew. Of course, this was more the case for some parents and whānau members than others, depending on their level and type of engagement. As with the modes of belonging, I believe that the children's identities within the CoP were still evolving as they moved towards becoming fully functioning members.

Leadership

Strong leadership is central to a well-functioning community of practice (McDermott, 2001; Nemec & LaMaster, 2014; Wenger, 2000). The leader (or leaders) of the CoP constitutes the nexus which holds the group together. In this study the supervisor, of the early childhood setting quickly became the leader of the CoP focussed on the practice of formative assessment to strengthen children's learning. She led by example. Her contributions to the children's ePortfolios were prolific and she supported the teachers to do the same.

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[21] For example, during the course of the study a group of teachers shared their experiences at a symposium.

Towards the end of the study the supervisor began to share the leadership of the CoP and other teachers took responsibility for growing the practice through such things as beginning to involve the children in writing and producing their own formative assessment.

7.6 Summary and looking forward

This chapter has discussed the findings of the Midway and Final Surveys. It has drawn on data from the case studies, interviews with management and teachers' reflections. The findings show that there are three key themes that have emerged from this study. These are:

- Changes to teachers formative assessment practices;

- Changes to adult engagement, and;

- The fundamental necessity to have portfolios as an artefact to support children's learning within early childhood education.

Each of these themes responds to a research question posed at the onset of this study and will be discussed in turn in the following chapters. Chapter Eight investigates the changes to teachers' formative assessment since the introduction of ePortfolios.

Chapter Eight – Formative Assessment

8.0 Introduction

As identified in the literature review, narrative formative assessments are used widely to support children's learning in early childhood education settings in Aotearoa New Zealand (Carr, 2009). The portfolios (paper-based and online) which are the central focus of this study contain formative assessment documentation mainly in the form of Learning Stories and learning moments (Carr, 2001, 2009; Carr & Lee, 2012; Carr et al., 2002). These types of documentation enable children to revisit their learning (including opportunities to contribute and self-assess), parents and whānau to engage with learning, and teachers to plan future learning experiences or support current interests. By utilising the contents of children's portfolios in these ways the key principles of formative assessment are being applied to children's learning. Formative assessment occurs when teachers and children give feedback on the activities or experiences they are providing or are involved in, to extend or support the learning which is occurring (Black & Wiliam, 1998a, 1998b; Carr et al., 2015).

The assessments make a difference

Formative assessment can promote children's learning, and co-operation and interactions with others are vital for formative assessment to be successful. These interactions become central to ensuring that the assessment does some work. Formative assessment should promote experiences which directly respond to feedback (Black et al., 2004; Black & Wiliam, 1998b; Clarke et al., 2003; Crooks, 2002; Crooks, 1988; Sadler, 1989, 1998). This chapter will explore the way the teachers present formative assessment within paper-based and ePortfolios, drawing on the earlier findings chapters of this thesis. Any changes to their formative assessment practices since using both paper-based portfolios and ePortfolios will be identified and discussed. This chapter responds to the first research question posed at the onset of this study:

(i)   How does the introduction of an ePortfolio programme change teacher's formative assessments?

8.1 Changes to teachers formative assessment

A significant proportion of parents and whānau who responded to the Final Survey (16/18) noted that they had seen changes in the way the teachers were carrying out formative assessment, and writing/presenting the subsequent documentation, for the children. Several of the parents interviewed for the case studies had also noticed changes. Alongside the parents and whānau the teachers, too, could identify changes to the way they were completing formative assessment for the children, and how they were using this within the ECE setting.

8.1.1 Consistency and frequency of additions to the portfolios

Consistency and frequency of additions to the paper-based portfolios was noted as an issue for parents, whānau and teachers. This section discusses this issue further.

Parent and whānau concerns

One of the biggest frustrations for some of the parents and whānau with the paper-based portfolios was that they were not consistently updated on a regular and frequent basis. For example, Megan (parent, case study five) did not like the inconsistency with the paper-based portfolios. She felt that there were often long gaps between additions, and then there were times when a lot was added. She acknowledged that this was most likely because of the time constraints on the teachers so the paper-based portfolio may not have been a priority for them. In fact Megan said that she would rather that the teachers spent time with the children rather than "tutū"[22] around with the paper-based portfolios. The analysis of the paper-based portfolios of the case study children reflected what Megan suggested and showed that they were not added to on a regular basis. All of the paper-based portfolios had significant lengths of time between additions, and for some children this could be as long as three months. Sometimes there would be a flurry of entries evident in the paper-based portfolios. This usually centred on an event of some kind, for example Matariki

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[22] Tutū is a te reo Māori word commonly used in Aotearoa New Zealand to mean 'play around with' or 'mess around'.

(see footnote 10 for definition), when several pieces of documentation would be added. Pauline (parent, case study two) said that she thought that the paper-based portfolios were added to in "fits and bursts" (Pauline, parent, Initial Interview, July, 2013).

Changes to consistency and frequency of additions after the intervention of ePortfolios – parents and whānau observations

Although the case study children had all been attending the ECE setting for different lengths of time, ranging from two and a half years to three months, at the onset of the study, the analysis of their portfolios showed a significant increase in documentation for all of them over the data collection period (July 2013-June 2014) compared to what had been in their paper-based portfolios previously. Based on the data it can be assumed that the children who had been attending for only a few months would have had a similar number of additions to their paper-based portfolios if they had been at the setting longer (see Table 8.0). For example Lila who had been at the setting for 23 months prior to the intervention of ePortfolios had 25 items in her paper-based portfolio – so on average just over one addition per month. While Ethan who had been at the setting for five months had four additions – on average just under one per month. This is a comparable number of additions. Additions to the ePortfolios in the year of data collection at least doubled compared to what was added to the paper-based portfolios in the year prior. Graph 8.0 shows the number of additions to the children's paper-based portfolios in the year prior to the implementation of ePortfolios and the number of additions to the ePortfolios in the year of data collection.

Table 8.0 Length of time at the ECE setting at the end of the data collection period

Child	Length of time at the ECE setting
Lila	2 years, 11 months
Ethan	1 year, 5 months
Jordan	1 year, 9 months
Amelia	1 year, 3 months
Reece	3 years, 6 months
Kate	2 years, 6 months
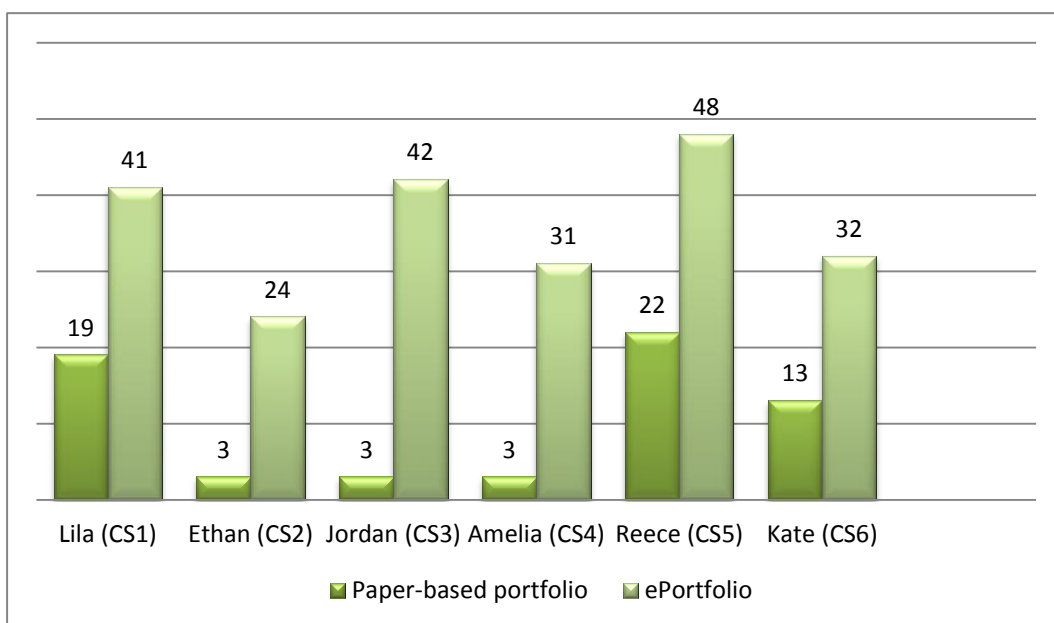
A significant number of parents and whānau indicated that there had been an increase in the frequency of additions to the children's formative assessment documentation portfolios with the introduction of ePortfolios, and that the entries were more meaningful (16/19 survey respondents; 6/6 case study parents). Liz (parent, Final Survey, August, 2014) said she considered that there was "more frequency and the teachers are able to use all forms of media to express the children's learning". Claire (parent, case study three) had definitely noticed an increase in the number and frequency of additions in Jordan's ePortfolio. She felt that the style of the ePortfolios probably made it easier for the teachers to write the stories, in particular the template provided (as described in 1.3). However, Claire also attributed the rise in number and frequency to the fact that parents and whānau were contributing to the ePortfolios. She thought that this affirmed to the teachers that what they were doing was valued and valuable. Megan (parent, case study five) had talked about the inconsistency in her Initial Interview; she felt that this had changed with the ePortfolios, which were now being added to regularly. The analysis of the ePortfolios of the case study children also showed a significant increase in frequency of additions.   Learning Stories and learning moments were being added to the children's ePortfolios on a regular basis, on average once a week,

and there were no longer gaps of several months. However, on occasion, there were still sometimes gaps in the additions to the ePortfolios, as there had been with the paper-based portfolios, as noted by Pauline (parent, case study two). She said that some weeks there were heaps of new stories added and then none for quite a while. At the time of the Final Interview Pauline said that there had been no new stories added for the last "couple or weeks or more" (Pauline, parent, Final Interview, August, 2014). She attributed this to teacher absences.

Changes to consistency and frequency of additions after the intervention of ePortfolios – teachers' observations

Several of the teachers also identified that the frequency and consistency of their contributions to the portfolios had changed since the intervention of ePortfolios.

Contributions to paper-based portfolios

In regards to the paper-based portfolios, some of the teachers noted that they did not have enough time to contribute as much formative assessment documentation to them as they would like. Georgina (teacher, case study six) felt that there was not enough time to really capture the children's learning as she would like to.

> My main issue is that there is never enough time. I find while there's lots of moments and lots of learning happening, and through writing the stories it gives me time to think more about the learning and how I'm responding to it, reflect on it, go a bit more in depth in the analysis and what learning's actually happening there. And I enjoy writing but my main thing is I actually like time to think. I'm not very good at writing a story quickly; I need to think about it and go back over it. So it is a time factor for me (Georgina, teacher, Initial Interview, July, 2013).

As noted previously, Robin (teacher, case study three) noted that the writing was hard for her, particularly typing Learning Stories up ready to go into the children's portfolios.   Robin said that she would like to contribute more and she certainly had many more stories that he could write for the children. Stephanie (teacher, case study four) said that she would add only one learning story to each of her key children's paper-based portfolios per month.   She said this was because of the primary care system that they used in the under-twos section of the ECE setting. This is an interesting statement. I wonder if Stephanie was

using the primary care system as justification for not being able to complete more formative assessment for the infants, perhaps because of the time it took to administer, or because of the image she and the other infant teachers held of children who were under-twos years of age. As identified in a recent Education Review Office report on the quality of care and education for this age group, almost half of the ECE settings in Aotearoa New Zealand do not have a strong enough focus on exploration and communication (Education Review Office, 2015). This could be because the teachers who work with this age group and the children's parents may have a different image of infants as opposed to older children – focussing more in issues of belonging and wellbeing. This is reflected in Stephanie's earlier comment when she stated that she did not think that parents and whānau understood the significance of portfolios, and their link to children's learning. However, Stephanie would like to contribute more. She said:

> Ideally it would be once a fortnight. In reality with primary care and that, and staffing and that, that's been a little bit, how can I say, erratic? I wouldn't be able to tell you. But there would be something in there, at least once learning story a month from myself (Stephanie, teacher, Initial Interview, July, 2013).

Contributions to ePortfolios

With the introduction of ePortfolios the teachers felt that they had increased the frequency of their contributions significantly. Sandra (teacher, case study one) said that contributing was a lot easier because of the technology and that this meant that she was now adding to the ePortfolios more often than she did to the paper-based portfolios. Like Sandra, Joanne (teacher, case study two) felt that she was adding more to the ePortfolios than she was to the paper-based portfolios, for all of the children in her section. Robin (teacher, case study three) thought that her contributions to the children's portfolios had increased since introduction of ePortfolios. As she was using the tool more her typing had improved and with continual practice she felt it was only going to get better. Robin was also more motivated to write the stories because she knew that they were going to be seen by a parent or whānau member in a much quicker time frame.

> As a teacher it is knowing that in the next 24 to 48 hours the story will be seen by somebody. It means I've got to get it done. I've got to finish it. It was important enough for me to collect his information and make sure I wanted to

get it down so I will get it down. Whereas before it was like, oh well I know this parent doesn't take their portfolio home that regularly, so I can probably leave this until next week or I can leave it to the week after (Robin, teacher, Final Interview, August, 2014).

Georgina (teacher, case study six) also said that she was contributing more formative assessment documentation to the ePortfolios than she had to the paper-based portfolios in the past.   Interestingly, Georgina was also involving the children in the learning story writing as they contributed their own ideas and selected photos to upload.

> I am contributing way more than I was. Because it's got a set format too it's just time saving in terms of taking and uploading photos, I can upload them straight away from the floor…I can start writing straight away. I can do some writing with the children so they are contributing their own words…and choosing their own photos to, so I love that aspect of it too (Georgina, teacher, Final Interview, August, 2014).

Although Stephanie (teacher, case study four) said that she liked writing Learning Stories for children's paper-based portfolios, she was more enthusiastic about doing so with the introduction of ePortfolios. Stephanie felt that she was completing more stories in the ePortfolio system than she was before with the paper-based system. She liked that she was able to keep a story in draft form and could go back and edit the contents after she had undertaken some further research on the learning that she had identified before they were uploaded. Stephanie thought that the ePortfolio system suited the way she worked. She said "It [the ePortfolios] actually suits my style of learning and my style of writing too, so it's really cool" (Stephanie, teacher, Final Interview, August, 2014). Another change for Stephanie was the number of portfolios that she now contributed to. Previously Stephanie had only contributed Learning Stories to the paper-based portfolios of her key children.   With the introduction of ePortfolios this had increased considerably. Stephanie considered that she was now adding Learning Stories to "99 per cent of them [the ePortfolios]" of the children in the under-twos section of the ECE setting. As well as using her non-contact time, Stephanie was writing Learning Stories for children's ePortfolios at home on occasion. She said "I have had times if I've got a few drafts I want to finish; I will sit at home, go in and finish them off, where I wouldn't do that with

a paper-based [portfolio]" (Stephanie, teacher, Final Interview, August, 2014). Like Stephanie, Leslie (teacher, case study five) was sometimes working on her Learning Stories at home.

> I do feel that ePortfolios makes me feel like I can contribute more. I feel like Educa provides more [opportunities to contribute]. So I can sit at home and I can write Learning Stories and moments for children and because I can work on them at home my output is higher (Leslie, teacher, Final Interview, August, 2014).

Georgina's (teacher, case study six) feelings about contributing to portfolios had positively changed during the year. She valued the ePortfolio system and was really enjoying making contributions. Although she was spending a lot of her own time writing the Learning Stories she did not resent this because her enjoyment had increased so much.

> I love the ePortfolio system and also I've bought my own iPad Mini which has really made a difference for me. But in saying that, I'm probably writing a lot more stories than I used to, so I'm probably not doing less time, but contributing more. I like it all in one place and the fact that the tablet is here as well, but I can take this [her iPad] at lunch time and upload photos and start writing a story straight away and that's really valuable (Georgina, teacher, Final Interview, August, 2014).

It is vital to acknowledge here that although some of the teachers were using their own time to contribute to the ePortfolios they did not see this as a negative.

The increase in frequency and number of additions to the children's portfolios was seen as a notable benefit of the introduction of ePortfolios. This was reported by teachers, parents and whānau. The teachers were feeling affirmed by the response they were receiving from the parents and whānau and this was encouraging them to write more. Alongside this, knowing that their stories were going to be read by a parent or whānau member in a timely manner also meant that they were spurred on to add these quickly. For children the timeliness of the additions to their ePortfolios meant that the learning experiences that they were having at the ECE setting could be shared at home while they were still fresh in their minds. They could also provide 'concrete proof' of what they were doing at the ECE setting. By seeing what their children were doing at the ECE setting almost instantly, parents and whānau were

becoming more connected to what was going on and their conversations with teachers about their children's learning were increasing in frequency and deepening. The affordances of the digital technology were a salient factor in the regularity and frequency of the teachers' contributions to the children's learning journeys through ePortfolios. Being able to access the ePortfolios anytime, anywhere meant that the teachers were contributing whilst at the ECE setting and also from home. As noted by Simonsen, Blake, LaHood, Haggerty, Mitchell and Wray (2009) "Writing tends to require us to sequence what we apprehend, while visual representation can enable us to present what is apprehended simultaneously. Digital technology affords us the capacity to work interactively and three dimensionally" (p. 19). EPortfolios, thus, provide a way to communicate that is accessible to teachers, parents and whānau (and to a lesser extent in this study, children) and is multimodal.

8.1.2 Writing style and content

The analysis of the case study children's paper-based portfolios showed that there was no set way of presenting or writing the formative assessment documentation (see Appendix Ten for examples). Each teacher wrote in their own way and each piece of documentation was presented differently. Very seldom were any links made over time between the formative assessments in the paper-based portfolios, and there was very little evidence of teachers using the documentation in planning for further learning experiences to extend on or support what children had already learnt. However, the teachers expressed a different view to what the analysis of the paper-based portfolios showed. Some teachers felt that they were effectively using the formative assessment contained in the paper-based portfolios to plan for future experiences. Joanne (teacher, case study two) saw the value of paper-based portfolios as an assessment tool. She supposed that through the paper-based portfolios the teachers were able to notice what was important to the child and also their development over time. From this they were then able to think about "where to next". They could plan their programme to suit the children's interests and needs and they could discover what extra equipment or resources they might need to enhance the child's learning. This meant that the children were "actually

excited about what's happening and being able to repeat things they want to repeat or engage in things they want to engage in" (Joanne, teacher, Initial Interview, July, 2013). For Leslie (teacher, case study five), the paper-based portfolios contained rich documentation which supported children's learning, helped her plan as a teacher and incorporated formative assessment which identified further opportunities and possibilities for extending learning experiences. The teachers, therefore, were using the paper-based portfolios to plan for the environment and experiences in the ECE setting by reading the contents and responding to them in this way. Marie wrote "reading portfolios enables me to get a sense of the children's interests, abilities and strengths, which enables me to know what they might need to flourish within their environment" (Marie, teacher, Initial Survey, July, 2014). It was apparent when observing the day to day happenings in the ECE setting that extending on the formative assessment contained in the children's paper-based portfolios was indeed happening; however the supporting documentation in the portfolios was not so evident.

Changes to writing style and content after the intervention of ePortfolios – parent and whānau observations

With the introduction of the ePortfolios the content of the formative assessment documentation and the teachers' writing styles had changed. Connections between learning experiences were also being made far more often by the teachers. These changes were acknowledged by parents, whānau and teachers. The changes were also evident in the analysis of the ePortfolios belonging to the case study children. Pauline (parent, case study two) had noticed that the length of the Learning Stories had increased in the ePortfolios. She also observed that the level of detail in the stories was better in the ePortfolios. Pauline said:

> I think it's probably actually even better. Maybe it's easier for the teachers to do it that way but it does seem that way. There was nothing wrong with them [paper-based portfolios] before but it does seem that they have even more detail in them now, and the videos and stuff help as well, which you obviously can't do with a paper one (Pauline, parent, Final Interview, August, 2014).

For Trudy (parent, case study one) the set format and the addition of videos had made a difference. She liked the capacity the ePortfolios had for videos to be included with the Learning Stories. This was something that she had mentioned as being problematic with the paper-based portfolios in her Initial Interview. She knew that there were videos being taken of Lila at the setting but unless a teacher took the time to show them to her then she did not see them. This meant that Trudy now had access to a medium that wasn't readily available before. Until the ePortfolios were introduced Lila's father had not seen the videos at all. Trudy felt that the introduction of the ePortfolios meant it was a lot easier to see the videos and photos taken of Lila at the ECE setting. Jasmine (parent, case study four) also thought the addition of videos added to the teacher formative assessment. She really valued the extra layer they added to the children's learning journeys.

Claire (parent, case study three) said that the way the teachers were writing Learning Stories had changed since the introduction of the ePortfolios. The consistent format meant that parents knew what to expect. She knew that she could scroll down and that the teachers would have identified what learning was happening in any given experience. Claire also liked how the learning was being linked to *Te Whāriki* in the ePortfolios. She said that this was happening more often now and for her this was important. This reflected the positive change in depth and richness of the Learning Stories that were being written for the children's ePortfolios that was evident in the ePortfolio analysis.

In the Initial Interview Sarah (parent, case study six) had identified that she sometimes did not like the way the Learning Stories contained in the paper-based portfolios were written. She felt that they contained jargon and were sometimes hard to understand because of this. Sarah commented that this had changed with the introduction of ePortfolios. She thought that the teachers were writing their Learning Stories aimed at parents and they were being written better. Megan (parent, case study five) had also noticed a difference. She said that there was now more information contained in the ePortfolios and that the

teachers were now linking back to what learning was happening consistently as they were commenting on existing stories, or expanding on them with new ones (for an example of this see Figure 7.3).

Changes to writing style and content after the intervention of ePortfolios – teachers' observations

The teachers had noticed several ways in which their writing and the content of the formative assessment had changed with the introduction of ePortfolios. Sandra (teacher, case study one) had identified in the Initial Interview that she felt that her Learning Stories were difficult for children, and sometimes parents and whānau, to understand. With the introduction of Educa she felt her writing had become more succinct. The format provided by the ePortfolio platform for the Learning Stories (the body of the story, what learning is happening and opportunities and possibilities for support/extension) meant nothing was missed and that she was able to get the stories "out there" quickly. Also, because Sandra was writing stories more frequently she was becoming more practiced in producing something that the parents and whānau would respond to. Stephanie (teacher, case study four) had also noticed a change in the way the teachers were writing formative assessment for children through Learning Stories. She said that there was now a lot more theory added, which supported the learning that was being observed, and that teachers were putting more thought into what they were writing. The template provided by Educa helped this as teachers had to think about what learning was happening and what opportunities and possibilities there were for extending this learning. Eilish agreed with this in terms of the way her writing had changed. She supposed that her increase of literature use was because as she was writing the stories online she was accessing research online alongside this (see Appendix Ten for examples of Learning Stories containing literature). She wrote "often when I write stories online, I am also able to access different articles while I am on the internet. This enables me at times to think more deeply about that child's learning" (Eilish, teacher, Final Survey, August, 2014).

With the introduction of the ePortfolio system, Leslie (teacher, case study five) felt even more confident in her capability to write quality Learning Stories. "I think that over time using ePortfolios my confidence has definitely grown…how I use it and how I communicate the values of [the ECE setting] through my stories, through ePortfolios" (Leslie, teacher, Final Interview, August, 2014). Leslie thought that the other teachers had also changed how they were writing the Learning Stories. Leslie thought that the teachers were writing for more children now, not just their key children. The stories were more frequent and contained deeper reflection through reference to theory and research. Leslie considered that the teachers were discussing children's learning more. This was now not limited to meetings but happened regularly during the day to day running of the ECE setting.

> I think as teachers our output is higher, we're having more discussions on the floor about children's learning so as teachers we're collaborating a lot more on the floor and we're building on that place. So what one teacher started with another teacher can add to and another teacher can add to, so the children's learning, it's just getting deeper and deeper and richer and richer (Leslie, teacher, Final Interview, August, 2014).

In her Initial Interview, Georgina (teacher, case study six) noted that she felt as if she was still learning about formative assessment, as this was not covered thoroughly in her qualification. She thought that through using the ePortfolio system her knowledge around assessment had greatly improved. Georgina thought that she had gained more of an understanding about formative assessment from not only using the tool to make links and connections, but also from the increased discussion among the teaching team (further discussed in 9.1.3 below). Georgina further thought that there had been a change in the way the teachers were writing Learning Stories which meant that she had identified a change in their formative assessment practices. The template provided for the Learning Stories on Educa helped this as teachers now included not only what they had noticed in the way of learning but how they had recognised it as learning and how they had responded to the learning. When asked if there had been a change Georgina said

> Yeah, definitely and the format that's set out, write the story, what learning is happening here and what next, because we're all using that format now,

whereas we were not before, I think that's definitely changed the way we are writing them [the Learning Stories] (Georgina, teacher, Final Interview, August, 2014).

When asked what had changed for her Joanne (teacher, case study two) simply said "the quality of my stories". This is interesting because in her Initial Interview Joanne felt that her formative assessment documentation was already well written and thoughtful. In terms of the other teachers Joanne considered that their writing of Learning Stories had also become a lot more in depth since the introduction of the ePortfolios. She said:

> …it has a lot more depth too in the way that we're thinking about our writing and the way that we use theory and the way that we use the 'what next' is a lot more thoughtful. We're actually a lot more critical of ourselves and the way we write because we know that the parents have access to it straight away. I think that people are a lot more thoughtful and critical about what they write (Joanne, teacher, Final Interview, August, 2014).

Changes to writing style and content after the intervention of ePortfolios – review of the portfolios

The analysis of the ePortfolios reinforced all of the changes to writing style and content noted above. In the paper-based portfolios it was sometimes difficult to see a clear difference between a learning story and a learning moment (see 2.2 for an explanation of Learning Stories and 5.1.4 for an explanation of learning moments). What was very obviously thought of as a learning story by the teachers was not written as one as designed by Carr (Carr, 2001; Carr & Lee, 2012) . The majority of the entries in the paper-based portfolios did not identify what learning was happening during the documented experience, or indeed ideas for future direction or support. This had changed significantly with the formative assessment documentation in the ePortfolios. The differentiation between Learning Stories and learning moments was very clear. Learning moments were a snippet in time that was worth capturing and adding to the ePortfolio. As previously noted by Kelly (parent) in her Final Survey – experiences that may not have been considered important enough to include in the paper-based portfolios were being added to the ePortfolios in this way. The Learning Stories, on the other hand, all followed the same format. They all

identified the learning that was happening during the experience and therefore the teachers could present ways to further support, or extend on, this learning.

8.1.3 Collaboration

The introduction of ePortfolios had seen a change in the way the teachers collaborated with each other when completing formative assessment documentation. The ePortfolio tool had opened avenues for collaboration that were not so easily present in the paper-based portfolios. This was because the medium for communication was multimodal, including video, which enabled documentation of real time events that could be more easily accessed by many participants. This meant that teachers were able to write stories collectively, at the same time; they were able to easily see what others had written so there double-ups were no longer occurring and they could see the learning through multiple lenses. This was identified by several of the teachers. Sandra (teacher, case study one) noted the benefit of being able to see what other teachers had written and could make links between these stories and her own. This, she said, meant that by having different lenses recording children's learning teachers were "actually able to get to know the child and understand how they learn" (Sandra, teacher, Initial Interview, July, 2013). Sandra also thought that teachers were reading each other's stories far more often with the introduction of the ePortfolio system. This meant Sandra thought that they were becoming a more reflective teaching team. Robin (teacher, case study three) said that teachers were no longer "doubling-up" on stories. By this Robin meant that rather than several teachers writing about the same thing, for example a child learning to write their name, they were now expanding on the first story. This was because, Robin felt, the ePortfolios made looking back at what had been written in the past so much easier. Eilish felt that the increased collaboration between the teachers meant that children were assured of having relevant documentation in their ePortfolios. She noted "Teachers can visually see which children are lacking in stories thus might be encouraged to have a lens for that child and capture a moment of learning or discuss with other teachers about the current learning for that child" (Eilish, teacher, Final Survey, August, 2014).

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Georgina thought that the ePortfolios also made planning for children's learning experiences easier. This was because of the ease of access and because it could always be accessed (using the settings tablets and computer) as opposed to the paper-based portfolios which were not always at the ECE setting. Georgina found that the ePortfolios helped her to make links to what other teachers had written and build on what learning they had noticed, recognised and responded to.

> Educa is way easier for planning. It's been fantastic in that respect because it is so easy to access previous stories for a child, and it's always there, whereas the portfolios [paper-based] go out of the centre…or if I'm outside and I want to access the stories I can do it on the spot, rather than having to came and find a portfolio. Also, it's really easy to read what other teachers are writing so you can see, make links, and then build up the planning from there. It's just having it all on one place that's so easily accessible and just easy to scroll back through and find a story that you might want to link the learning to (Georgina, teacher, Final Interview, August, 2014).

She said "We talk a lot more as teachers too actually between us about what's happening" (Georgina, teacher, Final Interview, August, 2014). These rich discussions meant that the ECE settings philosophy on learning was more visible in the children's Learning Stories. "That comes through in the assessment and planning as the values that are really important for us in the centre are coming through much more in our stories" (Georgina, teacher, Final Interview, August, 2014).

Joanne (teacher, case study two) considered that through using the Educa ePortfolio system teachers were thinking more about what they were writing in relation to each other. They were able to reflect on what each other was noticing when composing their stories. Joanne said:

> Often because I can go to the reports and see everybody's recent stories I can start to make those connections, whereas with the paper-based it was talking to people or wading through what needed to be filed. It's just having real quick access (Joanne, teacher, Final Interview, August, 2014).

This also meant, Joanne thought, that teachers were writing more shared stories. Like Robin she thought that the teachers were adding to each other's stories and were making sure that they were not repetitive. She said "Some people may have not written that story fully because they were not quite sure where to take

it, then I'd be like oh I've noticed that as well, how can we pull it together, or what might come next?" (Joanne, teacher, Final Interview, August, 2014). Finally, Erica commented that through the collaboration afforded by the ePortfolios the teachers were ensuring that "Documentation is timely, authentic, reflects the pedagogy of centre, reflects who the child is as a learner, reflects relationships with the teachers and reflects the strengths of the teaching team" (Erica, teacher, Final Survey, August, 2014).

The increase in collaboration was an unexpected outcome of this study. The teaching team at this ECE setting were already well established at the onset of the research period and worked well together. The fact that the ePortfolios further deepened their collaboration with one another meant that the formative assessment that they were writing for the children became even more meaningful and reflected the changes that were happening in the team.

8.2 What had changed?

Several changes to the way the teachers' structured formative assessment for the children have been identified in this chapter. Although the teachers were somewhat comfortable with what they were including in the paper-based portfolios, as were the parents and whānau, the changes made during the year of data collection were immense. Notably, of particular importance to the parents and whānau, the frequency and consistency of additions to the children's portfolios had increased. For all of the children in the case studies there had been an increase in what was added to their ePortfolios from what was in their paper-based portfolios. For most of the children this increase was significant. From counting the average number of entries in the paper-based portfolios and ePortfolios of all the children in the ECE setting per month, it is fair to say that this is an across the board finding. Parents and whānau reported an increase in the number of pieces of documentation being added to the portfolios and alongside this teachers identified that they were adding more. However, and very importantly, the increase in the frequency of formative assessment documentation did not mean that the quality was reduced. Conversely, analysis of the portfolios and the comments from the

participants indicated the way in which the teachers were writing the Learning Stories and learning moments showed far deeper thinking and reflection than they had shown in their stories in the past. They were regularly referring to theory and research to support what they were writing, the stories were written in a way that encouraged parent and whānau contribution, the learning that the teachers had noticed was clearly articulated and they were identifying ways to support and/or extend on the learning. This meant that the teachers were engaging in assessment that was clearly meeting the definitions of formative assessment provided earlier (Black & Wiliam, 1998a, 1998b; Carr et al., 2015). It is important to note that although the mediums of communication (written, conversed and videoed) had all been available to the teachers for some time, the intervention of the ePortfolios meant that they could pull them all together and provide ready access to them at the same time for parents, whānau and children (as well as each other).

The sense of collaboration amongst the teachers in terms of their formative assessment documentation had also increased. This team was already working incredibly well together at the onset of the research and they had a strong loyalty to each other and the ECE setting. However, this did not necessarily translate into their formative assessment documentation. There was little evidence in the paper-based portfolios of collaboration when it came to recording learning documentation for the children. Rather than build on previous learning evidenced in the paper-based portfolios, the documentation was disjointed and did not flow. Again there was a notable change here after the introduction of the ePortfolios. The teachers were talking more about what they were writing - with each other, parents and whānau and with the children. They were reading each other's Learning Stories and learning moments, and they were seeking feedback on what they had written from their colleagues. They were writing shared stories – stories which contained thoughts from more than one teacher – on occasion and were referring to stories others had written (see figure 7.3, where one teacher notes that she is aware of a story that another teacher in in the process of writing). This increased collaboration in formative assessment

emphasises a strong community of practice operating within the ECE setting (Lave & Wenger, 1991; Wenger, 1998, 2000, 2011, 2015a, 2015b; Wenger et al., 2002).

How the introduction of ePortfolios impacted on the changes

The design, alongside ease of use and accessibility, of the ePortfolio platform (Educa) used in this study was a critical factor in the changes to the teachers formative assessment practices. Therefore, this must be a significant consideration for ECE settings investigating using ePortfolios and the associated providers. The template designed and implemented by Educa was based on sound educational knowledge with input from ECE practitioners and researchers. This meant that it was fit for purpose and had no unnecessary features. Through using the template the teachers were producing consistent Learning Stories which recognised the learning that was happening as well as identifying opportunities and possibilities for future extension and/or support of the experience or interest. The template allowed the teachers to make meaningful links to Aotearoa New Zealand's early childhood education curriculum, *Te Whāriki* (Ministry of Education, 1996) and provided space for ongoing feedback from parents, whānau and teachers.

8.3 Summary and looking forward

This chapter has described the findings from the study in terms of formative assessment. It has identified the way in which the teachers were providing formative assessment for children in the paper-based portfolios and has ascertained what changed after the introduction of the ePortfolios. Parents and whānau, as well as the teachers, recognised changes to the formative assessment practices and pedagogy of the ECE setting and these views were presented.

Chapter Nine will explore the findings of the study in terms of any changes to parent and whānau engagement with their young children's learning.

Chapter Nine – Parent and Whānau Engagement

9.0 Introduction

Parent and whānau engagement with their young children's learning can have a critical role in their educational development and life experiences (Hango, 2007; Siraj-Blatchford, 2010; Waanders et al., 2007). As noted previously it has also been argued that parent and whānau engagement is a vital factor in high quality education (Cankar et al., 2012; Douglass, 2011; Hattie, 2010; Howe & Simmons, 2005; Ministry of Education, 1996). This study sought to find out how parents and whānau engaged with their young children's learning through formative assessment presented in paper-based portfolios. Furthermore it investigated whether there were any changes to this engagement when ePortfolios were introduced to the ECE setting. This chapter responds to the first research question posed at the onset of this study:

(ii)   Does an ePortfolio programme assist parents and whānau in an early childhood education setting to engage with their children's learning? If so, in what ways?

Each of the sections includes the opinions of parents, whānau and teachers.

9.1 Parent and whānau engagement with paper-based portfolios and ePortfolios

9.1.1 Access

The extent to which parents and whānau were engaging with their children's paper-based portfolios at the onset of this study varied. The majority of parents and whānau identified that they accessed their children's paper-based portfolios on a semi-regular basis, generally monthly. They usually took the paper-based portfolios home to look at with their children, rather than at the ECE setting. All of the parents and whānau members who took part in this study knew where the paper-based portfolios were located in the ECE setting.

Ease of access

The ease of access this afforded was highlighted as a benefit by several respondents. For example, Claire (parent, case study three) said that her

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favourite thing about the paper-based portfolios was how accessible they were to both herself and her children. Claire and her children, Jordan and James, all knew where the paper-based portfolios were kept and that they were free to take them any time they liked. Claire said that if the paper-based portfolios were not readily accessible then she would be less inclined to seek them out. Although Claire noted the lack of notifications of new stories as a downside of paper-based portfolios she did admit that she was usually aware that something new had been added "…nine times out of ten the teachers are really good, they've already spoken to me about it [a new story] because it's been something wonderful that they've seen the boys do and they've chosen to write about it" (Claire, parent, Initial Interview, July, 2013).

Ease of access and interactions

Sandra (teacher, case study one) also identified the main benefit of paper-based portfolios as the ease with which parents, whānau and children could access them. This led, she thought, to increased interactions between teachers and children, children and their peers and children and their parents and whānau with their formative assessment documentation. Sandra liked the way that the paper-based portfolios were accessible to children. She often noticed the children picking them up and looking through them. She said that children demonstrated a sense of ownership about their portfolios, they knew that they were theirs and that they could go and get the portfolio whenever they want to. She also saw the portfolios as tools which demonstrated children's learning over time, showing a picture of their growth and development. She said that portfolios "show as essence of who they [children] are" (Sandra, teacher, Initial Interview, July, 2013). The children, parents, whānau and teachers were able to get a portfolio whenever they wanted.

Placement of the paper-based portfolios

Leslie (teacher, case study five) considered that the placement of the paper-based portfolios was something that was carefully considered by the teachers when deciding where equipment was located within the ECE setting. At

the time of the Initial Interview the paper-based portfolios for the children in the over-twos section were located by the ECE setting's front door so parents and whānau had to walk past them when they were dropping off or picking up their children. Leslie would use these key times of the day to notify a parent or whānau member of an addition to the paper-based portfolio. She acknowledged that she did this more with her key families as the relationships with them were stronger.

> Probably more so my key children in the sense that I generally know what the parents and families are thinking and how I can support that. And if I've got a story that I have written for them then I will share it with them. Whereas with other children, if I've got a relationship with that family I might try or give it a shot but otherwise those key teachers know that child really well and what those parents have [goals for their children] (Leslie, teacher, Initial Interview, July, 2013).

Frequency of access

In two of the surveys (Initial and Midway), the parents and whānau were asked to identify how often they accessed their children's portfolio (in the Initial Survey these were the paper-based portfolios, in the Midway Survey the ePortfolios). Although the parents and whānau all indicated that they accessed their children's paper-based portfolios, the frequency of access varied, ranging from daily to when they were notified (verbally by a teacher) that something new had been added. When the ePortfolios were introduced all of the participants indicated that they had also accessed their children's formative assessment in this platform. Checking of the ePortfolios ranged from daily to when they received a notification (via email) that something new had been added. The data show that parents and whānau were accessing their children's ePortfolios far more frequently than they were accessing the paper-based portfolios.

Graph 9.0 Frequency of access

Bar chart with categories: Daily, Weekly, Fortnightly, Monthly, Less often than every 3 months, When notified of an addition. Legend: Paper-based portfolios (n=26), ePortfolios (n=28).

- Daily: Paper-based 1, ePortfolios 4
- Weekly: Paper-based 4, ePortfolios 11
- Fortnightly: Paper-based 0, ePortfolios 5
- Monthly: Paper-based 1, ePortfolios 14
- Less often than every 3 months: Paper-based 7, ePortfolios 0
- When notified of an addition: Paper-based 1, ePortfolios 8

9.1.2 Initiators of interactions with portfolios

The findings from the case studies showed that the initiator of the interactions with the portfolios had changed. The families and teachers in the case studies reported that they generally looked at the paper-based portfolios with the children when they initiated the interaction. Observations in the setting of children interacting with their paper-based portfolios before the ePortfolios were introduced also showed that the interactions were nearly always initiated by the children. This had changed with the ePortfolios as the teachers were now initiating the interactions.

Initiators of interactions – teachers' perspective

Leslie (teacher, case study five) said she regularly witnessed children accessing their paper-based portfolios to share with teachers or their peers. Leslie noted that it was the children, rather than the adults, that usually initiated interactions. Robin (teacher, case study three) said that she very rarely initiated looking at the portfolios with the children. She was very happy to do this when the children brought their portfolios to her but she would not actively initiate this revisiting herself. Instead Robin preferred to tell stories directly from her head:

> I like to verbalise telling stories so I tend not to read books with the children as well. So if I'm telling a story it comes from here [pointing to her head] and it's got a little bit of imagination and there's tweaks to the stories I've read in the

past. Yeah, I'm a bit more of a story teller than a story reader (Robin, teacher, Initial Interview, July 2013).

Since the introduction of ePortfolios Robin had noticed a change in the initiator of interactions with formative assessment documentation. Robin said that she now saw teachers sharing the children's ePortfolios with them more than they had with the paper-based portfolios. In the past any revisiting of the contents of the paper-based portfolio was initiated by the children. Now, with the introduction of the ePortfolios, and because the teachers had access to technology which allowed them to access them at anytime and anywhere, Robin supposed that more often than not the teachers were initiating the interactions with the ePortfolios.

This was demonstrated by Joanne (teacher, case study two). If Joanne wanted to revisit a story with a child she would use the ePortfolios and would access them through a tablet.   Joanne also thought that the children were beginning to utilise the ePortfolios more. She considered that they had picked up the skills to use the tablets effectively really quickly. The children were able to swipe the screen to move between stories and pictures. They knew that they could make the pictures bigger or smaller, and they knew how to make a picture go away so they could choose another one. Joanne said that if there were tablets available to the children all the time, and if they knew that they could access them, then she "could imagine groups of children hanging over the tablet" (Joanne, teacher, Final Interview, August, 2014). Leslie (teacher, case study five), like Joanne, would also use the tablets with the children to initiate conversations about the contents of their ePortfolio. However, Leslie surmised that the children would still go to their paper-based portfolios first. Anecdotal evidence obtained during my visits to the ECE setting would support Leslie's conjecture. As the paper-based portfolios were far easier to access than the ePortfolios the children were still accessing these often.

Access to portfolios is an important consideration for teachers when deciding which system to use. This discussion demonstrates the value that

teachers hold for children to be able to access their portfolios at any time they choose.

Initiators of interactions – parent and whānau perspective

Like the teachers, parents and whānau also engaged with the paper-based portfolios when the children initiated the interaction. This then prompted the parent or whānau member to take the paper-based portfolio home where it was shared with the children, extended family and friends. Megan (parent, case study five) said that they would normally bring her children's paper-based portfolios home "once in a while" when the children asked for them to be taken home. Megan admitted that taking the paper-based portfolios home wasn't a priority for her; it wasn't something that she regularly thought about doing. With the introduction of the ePortfolios, parents and whānau, in particular, were accessing the portfolios when they wanted too and were then initiating interactions with their children, extended family and friends around the ePortfolio. For Megan (parent, case study five) any interactions between herself and children with the ePortfolios were initiated by Megan or her partner. Megan's interactions with the paper-based portfolios had stopped altogether. She said this was because "They're just printing out from Educa and putting it into the paper-based" (Megan, parent, Final Interview, August, 2014).

Pauline (parent, case study two) would look at the paper-based portfolios with her children when they initiated the interaction which was fairly often as they were usually at home. Pauline's main concern with the paper-based portfolios was forgetting to take them back to the ECE setting. From my observations in the ECE setting I knew that this was frustrating for Pauline's older daughter. Every time I came to the setting Milly wanted to show me her portfolio and every time it wasn't there. Sometimes she found this quite upsetting. With the introduction of the ePortfolios this was no longer a problem for this family. The children's paper-based portfolios no longer came home so they were always at the setting, and Pauline and her partner were happy to simply look at the ePortfolios online. This did mean a change for the way

Pauline viewed the children's assessment for learning documentation with her children. She would access the ePortfolios when the children were not home or when they were in bed, using her phone. Educa had designed an app specifically for this purpose. As the children were not allowed to use Pauline's phone they did not look at their ePortfolios at all when at home. This meant that, unlike with the paper-based portfolios, Pauline was no longer directly looking at the assessment for learning documentation with Ethan and Milly. She would still talk about the stories she had read with them, however.

Jasmine (parent, case study four) had become the initiator of investigating the contents of the ePortfolio. She looked at them regularly with Amelia and Jack. She said "We look at them together on the computer, or on my phone, so we can look at them anywhere" (Jasmine, parent, Final Interview, August, 2014). This meant that she was no longer looking at the paper-based portfolios with her children. In fact, she actually did not even know where Jack's paper-based portfolio was "I have no idea where Jack's one is. It's at home somewhere. Just don't even use it anymore, there's no need to" (Jasmine, parent, Final Interview, August, 2014).

9.1.3 Sharing

Sharing the paper-based portfolios with others was mentioned as a significant benefit by several of the participants.

Value of sharing the contents of paper-based portfolios

Leslie (teacher, case study five) deemed that the value of sharing the children's portfolios with parents and whānau could not be underestimated. She felt that parents and whānau were the children's biggest "cheerleaders" and that it was important for teachers to work in conjunction with parents and whānau to capture their aspirations for their children. Alongside this, Sandra (teacher, case study one) noted that the paper-based portfolios were a valuable tool to demonstrate children's learning to parents. She thought that through the portfolios going home, parents were able to "visually see what's happening and read about what's happening, as well as understand how learning works for

children in the early years" (Sandra, teacher, Initial Interview, July, 2013).   Robin (teacher, case study three) mentioned that she would share the paper-based portfolios with parents and whānau when she had added something new. Robin felt that the paper-based portfolios had tremendous potential for encouraging parent and whānau engagement with their young children's learning. She would share the contents of her stories, sometimes before they were even added to the portfolio, with parents and whānau. Robin said that the paper-based portfolios were "an important tool for conveying the child's journey, and what they're doing" and that through teachers "offering our insights into what their child is doing and learning" parents and whānau would have a broader view of what their child was able to do (Robin, teacher, Initial Interview, July, 2013). Furthermore Joanne (teacher, case study two) thought that it was important to talk to parents and whānau about the portfolios, not just send them home: this, she said, was where the connections between home and the ECE setting were made.

> If I'm just sending it home but we're never talking about it, then I'm not knowing whether it's actually important to them, whether they care or [resonate] with what I've written, it might not make any sense to them, they might not care about what I've written. So it's that sort of making links and again sharing in that excitement… (Joanne, teacher, Initial Interview, July, 2013).

Another teacher, Stephanie (teacher, case study four) also recognised the benefits of sharing the children's paper-based portfolios with parents and whānau. Stephanie said when she had been able to spend some time with parents and whānau looking at the children's paper-based portfolios, they were often able to link what she was showing them to what was happening at home. These interactions were important, Stephanie noted, because they helped her to have a better understanding of the child and she was then able to use this understanding to shape her practice. Stephanie also felt that these interactions strengthened the relationship between the ECE setting and the family. Stephanie knew that these interactions were particularly important for the primary care system used in the under-twos year olds' section to be successful. Interestingly, Stephanie noted that not many parents of the under-twos regularly

took their children's paper-based portfolios home. She knew that this happened more in the over-two year olds' section of the ECE setting but for some reason the parents and whānau of the infants preferred to leave their children's paper-based portfolios at the ECE setting. Stephanie estimated that only two or three of the 10 families currently in the under-twos would take their children's paper-based portfolios home. Stephanie speculated: "I don't know if they actually understand the really full potential" (Stephanie, teacher, Initial Interview, July, 2013).

Frustration caused by lack of notification of new content in the paper-based portfolios

The lack of a notification system when new content had been added to the paper-based portfolios was a common frustration for parents and whānau. It was clear from the responses in the surveys and interviews that the paper-based portfolios were added to infrequently, and when something new was added there was no system to let parents and whānau know of the addition. This was also noticeable in the analysis of the paper-based portfolios which showed that the paper-based portfolios were added to infrequently and inconsistently. The teachers were aware of this and it was something that they were trying to rectify as a team.

Finding time to share

Sandra (teacher, case study one) thought that by sharing the contents of the paper-based portfolio with a parent or whānau member she was opening the lines of communication. She did note, however, that this was often difficult as parents had such busy lives and were often in a hurry to leave the ECE setting. But ultimately it was the setting's responsibility to find ways to engage the parents and whānau. Sandra said "it's up to us to actually reach out to that parent which I know is important, but sometimes it takes a bit of courage to make that step" (Sandra, teacher, Initial Interview, July, 2013).

Several teachers agreed that they were sometimes constrained by the busy-ness of parents and whānau when it came to finding time to share the paper-based portfolios. Stephanie (teacher, case study four) said that this was something that she very rarely did. She knew that it would be beneficial but she felt that the time factor inhibited these types of interactions. "It would be nice to do it but it's often they're dropping off, picking up, and they're in and out really fast" (Stephanie, teacher, Initial Interview, July, 2013). This was also highlighted by Sarah and Jasmine (parents), who noted that they did not have time to engage with their children's paper-based portfolios when they came to the ECE setting.

Value of sharing the contents of the ePortfolios and increased communication

With the introduction of ePortfolios the teachers hadn't shifted in their view that sharing the children's formative assessment documentation with parents and whānau was of the upmost importance. However, because the parents and whānau members were viewing the children's Learning Stories and learning moments in a more timely manner, conversations about their learning between parents, whānau and teachers had become more meaningful. Joanne (teacher, case study two) noted that the communication between parents, whānau and teachers had been strengthened with the introduction of the ePortfolios. She was still telling parents and whānau when she had added a story but with the ePortfolios they were often feeding back to her about the story and how they had extended on the learning at home before she had the chance to tell them to look out for it. This meant that the parents and whānau were more open to engaging in conversations about the children's formative assessment documented in the ePortfolios. The ability for parents and whānau to comment on the stories that the ePortfolios afforded was also impacting on Joanne's communication with the families.

Robin (teacher, case study three) remarked that she saw immense value in the change to parent engagement with formative assessment documentation, particularly because of her teaching pedagogy. Much of Robin's teaching

centred around risk and challenge. She was often with the children encouraging challenging outdoor play or 'messy' play with art materials. In the past this had caused concerns for some parents and whānau members. Since the introduction of the ePortfolios the two way communication between parents, whānau and teachers that had become more common meant, for Robin, that the concerns around her teaching (using risk and challenge) were no longer there. Through the instant communication with parents and whānau that the ePortfolios allowed, the concerns that had been raised by parents in the past had now changed to valuable comments. For example, Robin noted that in the past when children had gone home covered in paint parents had complained about this. Now, because, they were seeing the learning that went alongside this almost instantly, their comments had changed to include the value of messy play. She also talked about the fact that she carried a knife (Robin used this in the setting for tasks such as making kindling for the fire and as a crafting tool). In the past parents had 'freaked out' when told this by their child, but now they were seeing in real time how this tool was being used in the ECE setting, and that it was a tool that Robin felt was necessary in her teaching to allow her to provide excellent experiences for children involving risk, challenge, art and craft.

Value of sharing the contents of portfolios with extended family

Trudy (parent, case study one) also discussed the value of sharing the contents of Lila's portfolio. The main reason she valued the paper-based portfolios was because she was able to share the activities at the ECE setting with Lila's father, who very rarely came to the setting. Trudy noted that although she got to hear the stories from Lila first hand as she recounted the day's events when she was picked up, her father missed out on these. By the time they reached home Lila would be ready to move on and get involved in something else, meaning she did not share the stories with her dad with the same enthusiasm. This was where the portfolio came to the fore for Lila's family. Once a week Trudy would take the portfolio home to share its contents with her partner. Trudy also regularly shared her daughter's paper-based portfolio with several other family members. Lila's grandmother visited often

and sometimes the portfolio was already at home so she could look at the contents with her granddaughter. Trudy had, on occasion, also taken the portfolio on trips to visit out of town family members "I took it when we went to see my dad, so Lila's Poppa, and that was quite cool for him cos he lives so far away and he doesn't get to see what the kids are up to and stuff" (Trudy, parent, Initial Interview, July, 2013). Trudy felt that there was immense value in being able to share the portfolio at home with Lila and wider family members. By doing this, Trudy said that they not only came to see the teachers' view of how Lila was developing and learning but were also able to find out how Lila *felt* about what she had done whilst at the ECE setting. This shows that affect was an important motivator for Trudy in terms of her interest in Lila's learning (Custers & Aarts, 2005). With the introduction of ePortfolios Trudy felt that she was able to share the contents of Lila's ePortfolio even more effectively. Her partner was now regularly working out of town and because his email was linked with Lila's ePortfolio he received notifications when a new story was added and he was able to look at this straight away on his phone. Trudy said that she too was looking at the ePortfolio more now. Again, this was because of the email notifications. Trudy checked her emails regularly so was able to see new stories very soon after they had been written.

This was also true for Jasmine (parent, case study four) and her family. Jasmine and her partner had no family in the same city so what she liked the most about the paper-based portfolios was being able to share them with her extended family, in particular the children's grandparents, when they came to visit. This meant that Jasmine's family were able to see what the children had been doing during their time at the ECE setting. When the paper-based portfolios came home Jasmine also made sure that she spent time with her older son, Jack, looking at the contents. She was yet to do this with her younger daughter, Amelia, as Jasmine felt she was still too little to gain any benefits from it. Jack also liked to show his portfolio to his dad when he brought it home. As with Trudy, the way Jasmine's family interacted with Jack and Amelia's formative assessment documentation was different after the introduction of ePortfolios.

They were now visible in the children's learning journey as Mum, Dad and three grandparents regularly contributed to the ePortfolios in a tangible way through comments, something that they had not done in the paper-based portfolios.

Another parent, Sarah (parent, case study six), liked to take the paper-based portfolios home regularly to share with her husband alongside their children. She said that the children loved showing them what they had been doing at the ECE setting and that she and her husband enjoyed talking to Johnny and Kate about the learning experiences documented in their paper-based portfolios. Sarah did not spend any time looking at the children's paper-based portfolios at the ECE setting as she was always rushing and after settling the children and saying goodbyes she just did not have time. She said "Usually it takes me a good 20 minutes to get out the door anyway without looking at that [paper-based portfolio] as well" (Sarah, parent, Initial Interview, July, 2013). Jasmine (parent, case study four) also admitted to never looking at the portfolio with her children or their teachers at the ECE setting. This was because she was always in a rush when she was at the ECE setting. Jasmine said:

> The only reason I don't look at it here [the ECE setting] is because I have to get to school by a certain time and finish work, and there's just really not much time to get there. And then I just sort of forget. Once you've got a little one and then Jack dragging on and two school bags, I sort of don't grab it to take it any other time. But I just know that when the grandparents come down they've always asked for them [paper-based portfolios] so I think oh yep and take them (Jasmine, parent, Initial Interview, July, 2013).

Sarah also noted some changes in her and her family's interactions with the children's formative assessment since the introduction of ePortfolios. She liked the way that ePortfolios were so accessible and this meant that she could look at them when she wanted, not just when her children showed interest in doing so. Consequently Sarah felt that she was putting more of her own time into reviewing the ePortfolios.

> You put a bit more time into it with the ePortfolios because it's right there and you can access it when you've got the time to access it as opposed to the kids wanting to bring their portfolio and maybe that night you've got other activities on and so you just quickly flick through it then take it back to [the ECE setting]. Yeah, I do think it's easier to access, and put the time and thought into it (Sarah, parent, Final Interview, August, 2015).

A further change for Sarah was the way she was using the ePortfolios with her children, compared to how the paper-based portfolios were used. With the paper-based portfolios she would spend time with Johnny and Kate looking at the Learning Stories and other contents. She was not using the ePortfolios in this way. She said:

> I don't use the ePortfolio with them. I get the email and check it and read it and think that's really good, and I talk to them about it but I still bring home the portfolio when they want to bring home the actual paper-based portfolio and do that with them (Sarah, parent, Final Interview, August, 2015).

When asked why she wasn't using the ePortfolios with her children Sarah said that it was because of a technical issue. She felt that the photos were too small and she hadn't worked out how to enlarge them so they were easier for the children to view. She did, however, watch the videos with Johnny and Kate. Sarah did note, though, that she would talk with her children about the contents of their ePortfolios. She might mention to the children that she had seen a photo of them doing something at the ECE setting and this was when she thought that she was engaging with their learning.

Changes to sharing after the intervention of ePortfolios

The extent to which the children's formative assessment was shared between teachers, parents and whānau had changed significantly with the introduction of the ePortfolios. Although the teachers had endeavoured to share the contents of the paper-based portfolios with parents and whānau, this was inhibited by the busy-ness of families leaving little time available for this to occur. Although the sharing of the ePortfolios wasn't occurring in a physical sense, i.e. sitting down and looking at the portfolio together, the children's formative assessment documentation was being 'shared' in a more effective way. As the Educa system sent out an alert via email or text to anyone who had access to the ePortfolio when something was added, parents and whānau members saw that there was something new to look at.   As a result they were accessing their children's ePortfolios far more frequently than the paper-based portfolios and the teachers knew this was happening, not only through the reports generated by the system, but from the conversations which were

occurring. The ePortfolios also enabled parents and whānau to look at and share children's formative assessment with them and others anywhere at any time.

9.1.4 Contribution

The changes to the ways in which parent and whānau contributed to their children's learning journeys through formative assessment changed dramatically with the introduction of ePortfolios. These changes are discussed in this section.

Limited contribution to the formative assessment in paper-based portfolios by parents and whānau

A number of parents and whānau indicated that they did not engage with the paper-based portfolios as much as they perhaps could to support their children's learning in terms of physical contributions to the formative assessment documentation. This view was also shared by several of the teachers. Sandra (teacher, case study one) had seen very little parent engagement with the paper-based portfolios through written contributions. Although the parents and whānau engaged with the portfolio by sharing the contents with their child or children, and indeed the verbal contributions they made were very important and welcomed, they very rarely participated in the actual formative assessment in a written form. In fact, Sandra could recall only one occasion where a parent contributed something material to their child's portfolio. Sandra considered this was an area which needed strengthening across the ECE setting to support the excellent verbal engagement which already occurred. In support of this view, Joanne (teacher, case study two) noted that the parents and whānau in the under-twos section of the ECE setting did not physically contribute to the paper-based portfolios. She said that she often received verbal feedback which she then included as an extension to the story, but the parents and whānau did not make concrete contributions to the children's paper-based portfolios. Leslie (teacher, case study five) agreed that more often than not it was the teachers who were adding the parents and whānau voice, recording what they had been told verbally.

> We might listen to what they're saying and write that down and kind of do their voice that way, include it within our stories, the conversations we've had

with families. Kind of do it that way to kind of bridge the gap a little bit (Leslie, teacher, Initial Interview, July, 2013).

Leslie felt that it was important to advocate for parents and whānau to contribute to their children's formative assessment through the paper-based portfolios. The ECE setting had tried to encourage this by providing spaces for parents and whānau to include their thoughts but more often than not it was the teachers who recorded parental and whānau aspirations, commendations and goals. Robin (teacher, case study three) also noted the lack of physical contributions made by parents and whānau to their children's paper-based portfolios. She commented that the lack of contribution from parents and whānau was very simply because "…they're not aware that they can. I think that may be all it is" (Robin, teacher, Initial Interview, July, 2013).

Certainly some parents and whānau members were not aware that they could contribute further documentation to the paper-based portfolios. When asked if she knew that she was able to make other contributions such as written comments (parent voice, learning story etc.), not just artwork, Trudy (parent, case study one) said no, she did not know that she was able to do that. Similarly Pauline (parent, case study two) was also unaware that she could contribute. She said "I guess I'm not really sure if we are supposed to, and what we're supposed to do. They seem like a teacher thing to me" (Pauline, parent, Initial Interview, July, 2013). Seven of the 26 respondents to the Initial Survey reported that they either did not know that they could contribute or that this was something that they had forgotten about.

Contributions from parents and whānau

The value of engaging with the documentation in the children's paper-based portfolios was clear to parents, whānau and teachers but this engagement was not often followed up in terms of actually contributing to the paper-based portfolios. Three of the case study families noted that they had made contributions to the paper-based portfolios. These were generally supplying photos for the teachers to add. Jasmine (parent, case study four) noted that that

in the past her partner had contributed to Jack's paper-based portfolio, but neither of them had contributed to Amelia's as yet. Jack's father had made a photo montage with comments of the family's trip to a zoo and this was then taken to the ECE setting to be put in Jack's portfolio. This was something that he did for special occasions or trips. Megan (parent, case study five) and her partner had also contributed to the paper-based portfolios in the past. They had completed a parent contribution (see Appendix Ten) in Reece's portfolio and they had also sent photos of family holidays to the ECE setting to be added. Sometimes they would also add artwork that they children had completed at home if they asked for it to be put in. Trudy (parent, case study one) had also added some artwork to Lila's paper-based portfolio on occasion.

Claire (parent, case study three) felt that there was not adequate space in the paper-based portfolios for her to make contributions. The stories took up most of the space and Claire did not want to "muck up their folders". She also did not contribute because of lack of time. As she was always in a rush when she came to the ECE setting she did not think that she had enough time to actually write something that would add to the portfolio "I'm in too much of a rush. I've really got to actually think about what I want to write and then write it in" (Claire, parent, Initial Interview, July, 2013). Claire did think, however, that she and other members of her family contributed verbally to the children's learning and that the teachers could add these conversations to the stories in the paper-based portfolios. Sarah (parent, case study six) also felt that she made verbal contributions through her conversations with the teachers. In regards to what she contributed Sarah said "Maybe just ideas and stuff. Like I notice some things, like it [learning story] says Mum said that you were doing this Johnny and so we did that and that sort of thing" (Sarah, parent, Initial Interview, July, 2013). Joanne (teacher, case study two) further noted that the parents and whānau in the ECE setting's under-twos section did not really contribute to the paper-based portfolios. She said that she often received verbal feedback which she then included as an extension to the story.

It is fair to say, then, that although the parents, whānau and teachers in the ECE setting could articulate the benefits of engaging with the children's paper-based portfolios in reality this engagement wasn't occurring as well as it could or as often as it should, in terms of written contributions to formative assessment (see Chapter Five). Whilst parents and whānau were able to investigate the paper-based portfolios with their children, finding the time to truly connect with the content and make meaningful material contributions was often difficult for parents and whānau. The uncertainty around what to contribute, or in fact knowing if they were actually 'allowed' to add items, further compounded the paucity of parent and whānau contributions to the children's paper-based portfolios[23]. This all changed with the introduction of the ePortfolios.

Changes to contributions after the intervention of ePortfolios

Only ten out of 26 respondents to the Initial Survey indicated that they had made contributions in way of photos or other content to their children's paper-based portfolios. This had nearly doubled with the introduction of ePortfolios as 19 out of 28 respondents identified that they had made material contributions to their children's ePortfolios (comments, Learning Stories and moments, photos and video).

Graph 9.1 Percentage of parents and whānau who contributed to portfolios

Percentage of parents

■ Paper-based portfolios (n=26)　■ ePortfolios (n=28)

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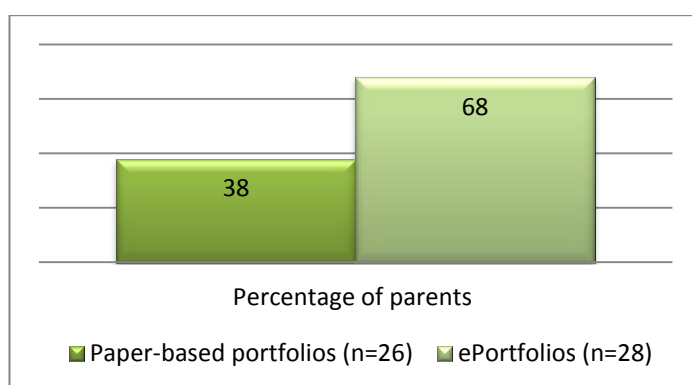
[23] It is important to reiterate that parents and whānau were contributing verbally to the children's learning through portfolios in meaningful ways. The teachers felt, and this researcher supports this view, that by including written contributions alongside this the children's learning journey would be further strengthened.

Parent and whānau contributions to the children's formative assessment documentation had increased dramatically with the introduction of the ePortfolios. Trudy (parent, case study one) who was unaware that she could contribute to the paper-based portfolio was making very regular contributions to Lila's ePortfolio. She said:

> EPortfolios are cool because I'm able to put stories and photos on. So if stuff happens at home that's really cool I can include it, like I did a big story for Lila's third birthday and put all her photos up from that. It's quite cool being able to add your own stories and photos and stuff (Trudy, parent, Final Interview, August, 2014).

An example of a learning story written for Lila by Trudy features Lila's birthday and is included on the following pages.

Figure 9.0 A learning story written by a parent

▢ 3rd Birthday..

06/09/2013

By: Parent

In March of this year ▢ turned 3.

After looking at what seems like 100 birthday pictures and theme ideas ▢ settled on the idea of a Garden Party.

We brought a big white gazebo and decorated it with lanterns and balloons. ▢ chose beautiful pastels and bright colours.

Then it was time to think about cake??

I showed Naomi a photo I had found on a website, it was bright yellow with buttercream roses all over it was truly amazing. ▢ loved this cake right from the start so we got in touch with a lady we know and she organised this for us.

I also had a special birthday surprise for ▢, a friend of mine from high school has recently started professional photography and had volunteered to come an take photos of the girls for me.

▢ and I quickly remembered that we had brought beautiful white parasols for her party so we thought these would be great props for the photos.

Soon enough it was ▢ big day and she was so excited.

Everyone close to ▢ arrived and we shared presents and food.

After presents and food it was time for photos.

▢ was definitely comfortable in front of the camera and this shows with her amazing photos.

Birthdays are such a special part of our lives and photos are a great way to capture these precious moments.

Whānau Voice / Comments

Teacher

07/09/2013

Thank you for sharing this story with us ☐ and ☐.
☐ is very lucky to have parents who have taken so much time and effort to make her birthday so special. Everything looks so stunning, and that cake is amazing. I often see pictures too of these icing roses, and have even tried my hand at creating them (but they don't look like that). ☐ and I have been talking about ☐ upcoming birthday and she is very excited about this too, these family rituals and the opportunity to spend time with extended whanau is a very big part of who ☐ is.

Teacher

08/09/2013

Thank you for sharing this story ☐. It is great to be able to hear about and see the things that are special to you and your family. Your girls have such a creative flair and i can see how this passion reflects in your enjoyment around celebrating and creating special memories around their birthdays.

Trudy's partner had also become involved in the stories she contributed to Lila's ePortfolio. Trudy said they would sometimes sit down and write them together. This is an interesting finding as previously the only engagement that Lila's father had had with her formative assessment was when the paper-based portfolio was brought home and he would look at the contents with Trudy. Now Lila's father was contributing to her formative assessment in a much more meaningful way, through actually engaging with the contents of the ePortfolio and adding to it alongside his partner and Lila.

Since the introduction of the ePortfolios, Claire (parent, case study three) had begun making comments on Jordan's Learning Stories. She had not commented in the paper-based portfolios in the past. Claire felt that it was easier to comment in the ePortfolios. Claire shared these comments with Jordan. She was able to make links between what he was doing at the ECE setting and what he was doing at home. Often they would read a story together then talk about how it compared to what he was doing at home. Then Claire would tell Jordan about the comment she was going to make. She said:

> We will go through the story and I will go 'look this is really good Jordan, you've been doing this at home. It's similar to what you have been doing at preschool' and I will put a little comment like that so he can see the comparison. (Claire, parent, Final Interview, August, 2014).

Case study five showed a remarkable increase in contributions by extended family members. The contributions by Reece and Leo's out-of-town grandmother (Granny B) were a key feature of this case study. Megan (parent, case study five) noted that she had not contributed to the paper-based portfolios in the past but contributed to the ePortfolios more than Megan and her partner did. Granny B had become part of the community of practice at the ECE setting. She was regularly engaged with Reece and Leo's learning and she made contributions to this. Megan made the following comments about Granny B's newfound sense of belonging at the ECE setting:

➢ "She's able to view the stories and understand what is happening at the day-care. Because of that she sent through a puzzle for the centre to do".

> ➤ "She came to the Christmas party because she felt like she actually knew the kids and the teachers".

> ➤ "She talks to the kids about what they are doing, and she has also added photos, cos they're on an orchard, just to show what the kids do when they're at the orchard" (Megan, parent, Final Interview, August, 2014).

Granny B's wonderful involvement in her grandchildren's learning is illustrated in the learning story example *Sounds of the bush* in Appendix Ten. Leslie, the key teacher for this family commented on how experiences like this had increased the value of the children's formative assessment documentation. She felt that the greater interaction by family meant that she was now having a richer written dialogue with parents and whānau through the ePortfolios and this supported the child's ongoing learning. Indeed, Leslie had seen a marked increase in parent and whānau contributions in the ePortfolios, particularly from grandparents. She provided the following example in relation to Granny B's contributions:

> We did have this one family with grandparents who lived out of town and Grandma's responses were absolutely awesome to her grandchild's learning. She ended up sending us this puzzle that linked to our curriculum at that moment. It was absolutely awesome (Leslie, teacher, Final Interview, August, 2014).

Megan and her partner were contributing to the ePortfolios more too. Megan said that they had contributed once or twice to the paper-based portfolios but with the introduction of ePortfolios their contributions were much more frequent. Megan said "We went away for a week to Australia so we put some photos up then, and we'll try and comment, or we'll talk to the kids about it" (Megan, parent, Final Interview, August, 2014). This comment recognises that not only had their tangible contributions intensified, but so had their verbal engagement with Reece and Leo's learning which was being identified in the ePortfolios by their teachers.

Jasmine (parent, case study four) and her partner had made some contributions to Jack's paper-based portfolio but had not made any to Amelia's. Now they commented regularly. Sometimes they would just acknowledge the story with something as simple as a smiley face. However, Jasmine suggested

that this was affirming for the teachers. She said "My personal opinion is that the day-care sees that we are actually looking at them and reading them" (Jasmine, parent, Final Interview, August, 2014). Other members of Jasmine's family were also contributing to the children's ePortfolios. By being linked to the ePortfolio platform, Educa, and being able to add comments to the Learning Stories Jasmine considered that the way their extended family, particularly the children's grandparents, engaged with the children's learning had changed.   In the past Jasmine had tried to make sure that the paper-based portfolios were at home when the grandparents came to visit, but because they were only there for the weekend not a lot of time was spent with the books. Now, because they had access to the online ePortfolios the children's grandparents already knew something about the children's experiences at the ECE setting before they came to visit. They could also share in these experiences in between visits via phone. Jasmine thought that by allowing her and her partner's parents access to Amelia and Jack's ePortfolios, this was affirming their choice to send their children to an early childhood education provider. Jasmine said:

> My mum in particular loves it because being away she sees her grandkids enjoying day-care, like we're not sending them to some black hole and they're just sitting there while I go to work. So they probably get to look at it with more time and that type of thing rather than just the excitement of they're in town and kids crazy and shove the book in their face then that's it (Jasmine, parent, Final Interview, August, 2014).

It was not only Jasmine's mother who was benefiting from this access but also her parents-in-law. She said her mother-in-law "raves about it, she absolutely loves it" and also that her father-in-law was contributing too which was unexpected – "he's always putting his two cents worth in the comments, it's been awesome feedback" (Jasmine, parent, Final Interview, August, 2014).

What was being contributed to the ePortfolios by parents and whānau?

The main difference in what was being contributed by the parents and whānau to the ePortfolios was the increase in material feedback through comments, Learning Stories and learning moments. When adding to the paper-based portfolios, parents and whānau had inserted photos, parent voices and artwork. They also felt that they contributed ideas verbally which the teachers

then added. In the ePortfolios parents and whānau were including comments, Learning Stories, learning moments, and photos.

Graph 8.1 What parents and whānau were physically contributing to the portfolios (data from initial and Midway Surveys, coded responses)
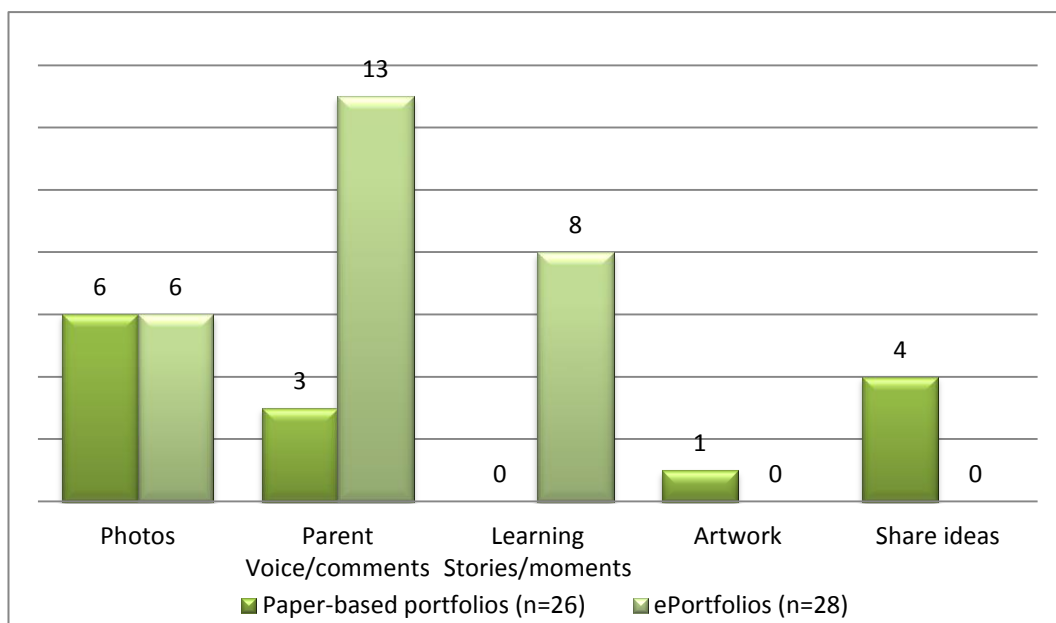
The increase in parent and whānau contributions to the children's ePortfolios had a profound effect on the teachers' formative assessment practices. For example, Joanne (teacher, case study two) was trying to be thoughtful about how she could take the comment made by the parent or whānau member and build on it within the next part of the story. She said the teachers were "being mindful about the knowledge that the parents are sharing with us and how we actually use that" and that this was important as they wanted parents and whānau to keep contributing. Joanne aimed to encourage deeper comments from the parents and whānau who contributed. She was very hopeful that as time went on the comments would change from something like "oh, that's a cool story" to more considered thoughts about what the learning might mean at home or what the learning meant for their child.

Connections between home and the ECE setting

Clear connections were also being made between home and the ECE setting in the ePortfolios. These connections were utilised by teachers, parents

and whānau and children.   It was the comments made by parents and whānau that enabled Sandra (teacher, case study one) to make relevant connections to home. She would know something about the child that she may not have known from just talking to the parent or whānau member. This meant that she could further refine her formative assessment practices around children's strengths and interests.   Stephanie (teacher, case study four) felt that she was using the comments made by parents and whānau in the children's ePortfolios to extend on the children's learning experience and make links to what was happening at home.   Joanne (teacher, case study two) valued the paper-based portfolios because they increased the connections between the ECE setting and the children's home.   With the introduction of ePortfolios, she felt that her relationships with parents and whānau had been developed even further. She said:

> …I think the difference between the ePortfolios is you've kind of almost strengthened the relationship with the parents, so it's also more for them because I'm getting feedback from them and it's more of a two-way between the parents and me as a teacher as well. Even though it's still very much for the child, I feel more connected with the parents through that they are responding more, and they're feeding more in to what the children are doing at home and how that affects what you're noticing in the centre so it strengthens that relationship as well (Joanne, teacher, Final Interview, August, 2014).

Joanne also noted how the inclusion of videos had impacted on the relationships between the child, their home and the setting. She thought that the children were looking at the videos contained in their ePortfolios at home often. This meant that Joanne was also getting feedback from the children about her stories. Comments like "my mum showed me that" were now a more frequent occurrence in her conversations with children.

Jasmine (parent, cases study four) also made connections between the ECE setting and home through the ePortfolios. She recalled a recent story about Amelia gluing. The teacher wondered if this was something she did at home with her older siblings. Jasmine was able to add a comment to Amelia's story which shared that they were, in fact, doing this at home too. Being able to reaffirm what was happening at the ECE setting at home, through the ePortfolios, was

also identified as useful by Claire (parent, case study three). By sharing the contents of the ePortfolio with Jordan's experiences at the ECE setting with his older brothers, Jordan was able to provide concrete evidence that what he had said was happening actually was. Claire provided the example of Jordan regularly building fires with Robin. His older brothers did not believe that this was happening. When Robin included a story accompanied by photos of the event around the same time Jordan was telling his brothers the story, they had to believe it because there was concrete evidence. The benefit of this being in an ePortfolio rather than a paper-based portfolio was that Claire was able to show the story to Jordan's brothers instantly, while the discussion was occurring, rather than having to remember to bring the paper-based portfolio home, by which time the moment would have passed. Robin (teacher, case study three) was sure that parents and whānau were now more visible in the children's learning journeys. Parents and whānau were making links between what was happening in the ECE setting and what was happening at home.

Mutually respectful relationships

The teachers were overwhelmed by the change in the way parents and whānau were contributing to their children's formative assessment. Georgina (teacher, case study six) said that the response to the ePortfolios by parents and whānau had been "amazing", particularly in terms on making physical contributions to their children's ePortfolios. She noted that parents and whānau were commenting on her stories, which affirmed her work, adding their own stories and putting up photos.

> Probably more [parents] are responding than not, and so you know and that's really more satisfying. You know they are actually reading them and straight away responding very quickly. Whereas the paper based, well I never really knew a lot of the times, sometimes, if they were actually looking at them (Georgina, Teacher, Final Interview, August, 2014).

The ePortfolios had also increased verbal communication between herself and parents and whānau, Georgina thought. She said that they were talking more the about the contents of the ePortfolios than they had done about the paper-based portfolios. Georgina thought that this was because of the

interactive nature of the ePortfolios. It had become clear to Georgina that even parents and whānau who did not contribute to the ePortfolios had read her stories; this was a change from the paper-based portfolios as she said that these were not accessed by all families whereas the ePortfolios were. The other benefit of the ePortfolios that Georgina had noticed in regards to parents and whānau engagement was the accessibility of the ePortfolios to extended family in other areas of New Zealand or overseas. "The other big thing about Educa is the extended family, like grandparents in England that can access it, that's just fantastic and the responses from families out there and around New Zealand and different places" (Georgina, teacher, Final Interview, August, 2014).

As discussed by many authors, parental engagement with children's learning can be a key factor for increased educational success, and, in turn, better life experiences (see references in 2.5). This study has demonstrated how a change to a formative assessment system can increase this engagement. The parents and whānau in this study had gone from very rarely, if ever, contributing to their children's formative assessment portfolios in a tangible way to being regular contributors through comments, stories and conversations.

9.2 What had changed?

There had been significant changes in the way parents and whānau engaged with their young children's learning with the introduction of ePortfolios to the ECE setting. Although parents and whānau accessed their children's paper-based portfolios when prompted by their child, they were doing this more often with the ePortfolios, and they were initiating the interactions. The parents and whānau were engaging with the contents of the ePortfolios on a regular basis, and were making physical contributions – something that was very rare with the paper-based portfolios, where verbal contributions were more common. The children's ePortfolios had been shared with more people, meaning that extended family, and in some cases friends, were also receiving notifications when new Learning Stories or learning moments were added. Some of the extended family members were contributing to the children's ePortfolios,

from within Aotearoa New Zealand and internationally[24]. The parents and whānau were also talking more with the teachers about their children's learning. As they had seen the learning in action in a timely manner it was fresh in their minds when they came to the ECE setting. The teachers, parents, and whānau were making connections between home and the ECE setting. Teachers were able to see first-hand what the children were doing at home or when visiting relatives. They could then extend this learning into the ECE setting if appropriate. This also worked in reverse, where parents and whānau were able to link what the children were doing in the ECE setting to what was happening at home. Another benefit of the ePortfolios which was highlighted by one teacher in particular was that parents and whānau could see what was going on in real-time – particularly around experiences which involved risk and challenge. This meant that rather than hearing 'stories' from the children about what had occurred, they were able to see for themselves and this allowed them to understand the learning behind the experience. Children's experiences were also being validated by the ePortfolios. Other family members, such as siblings, had to believe what they were being told as the evidence was in front of them in a timely manner.

The introduction of ePortfolios had a positive impact on parent and whānau engagement with their young children's learning. The juvenile community of practice which was evident in the ECE setting at the onset of the research had grown and was beginning to function as a robust community of practice by the end of the data collection period. Not only were parents and whānau working alongside the teachers and contributing to their children's learning through the ePortfolios, but their sense of belonging in the ECE setting had increased. Out-of-town family members who had never been to the setting felt that they were already part of the setting's whānau. When they came to the setting they already knew the teachers, understood the philosophy and learning

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[24] ePortfolios had been shared with family in South Africa, Japan, Malaysia, Australia and America. One family had also shared their children's ePortfolios with their previous ECE teacher in the United Kingdom.

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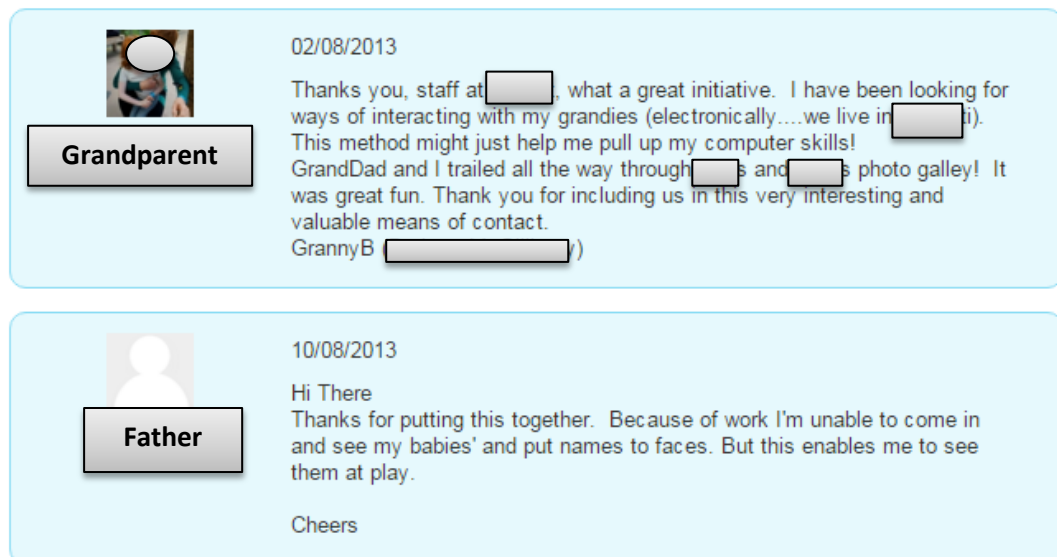
expectations and in several cases had themselves contributed to the community of practice.

How the introduction of ePortfolios impacted on the changes

The accessibility of the ePortfolios was the strongest factor in increasing parent and whānau engagement in a written form with their young children's learning. The notification system which was part of the Educa software meant that parents and whānau were being notified in a more timely way when there was a new addition to their child's ePortfolio. The system also notified parents and whānau when there was a new message from the ECE setting, meaning that it was more likely that they knew what special events were occurring and this enabled them to plan to attend well in advance. This was assisting in the development of a stronger community of practice within the ECE setting. Parents and whānau were also commenting on the ePortfolio message board about the introduction of ePortfolios and what it meant to them.

Figure 8.1 Examples of comments from parents and whānau about the value of ePortfolios

The ease of use of the platform also assisted parents and whānau to engage with their children's learning through ePortfolios. The format allowed plenty of space to comment and parents and whānau were also able to add their own stories, photos and videos.

9.3 Summary and looking forward

This chapter has discussed the findings of the study in relation to parent and whānau engagement with their young children's learning through ePortfolios. It shows that easy access to the system was a major factor in the increase in contributions from parents and whānau, and that the type of contribution was beginning to change. The initiators in the interactions with portfolios had also changed. The children were still the main initiators of interactions with the paper-based portfolios but the parents, whānau and teachers had become the main initiators of interactions with the ePortfolios. The chapter also highlighted the value of sharing the contents of portfolios, in whichever format, with parents and whānau.

The following chapter will review and discuss the findings of the study with a focus on *recalling*, *reconnecting* with and *restarting* learning through the use of portfolios.

Chapter Ten – Recalling, Reconnecting and Restarting

10.0 Introduction

This chapter responds to a key requirement of formative assessment – that it contributes to ongoing learning (see 2.1 and 9.0). I have called this formative process *recalling*, *reconnecting* and *restarting*. The possible sequence is as follows. When children are recalling their learning they are able to remember a past event through looking at their formative assessment documentation. They will often share this with an adult or peer. Once they have recalled the event described earlier in the portfolio they may be able to (or be invited to) move onto something else. When children reconnect with learning they may then continue, with support, where they left off. When restarting the learning they will continue the learning process but will expand on the learning by moving in a different direction. Several examples of this process are provided in this thesis. Recalling a learning experience alongside a teacher can be seen in 7.1, where a child has recalled bike day and is encouraged to write about this. An example of reconnecting is provided in *I want to paint a tiger*! (7.1.8). Michael has reconnected with past learning (drawing a dog) and with the support of a teacher he has explored this further in his drawing of a tiger. Finally, an example of restarting learning is seen in Milly's party planning (7.1.5), where she moves from planning a dress-up party to planning an event to celebrate Matariki.

Empowering children to recall, reconnect with and restart learning is one of the central functions of a portfolio. Through doing this, children are able to construct their own learning journey, guided by their teachers, parents and whānau. The importance of this was stressed by teachers, parents and whānau alike. This chapter responds to the final research question posed at the onset of this study:

(iii)   In what ways do children use and contribute to their ePortfolio?

10.1 How children learn and the role portfolios play in this

In the Initial Surveys the teachers (n=12) and parents and whānau (n=26) were asked to describe how they thought children learned. The participants could identify several different ways that children learned. Learning through play and associated experiences was seen as a vital element of learning for several respondents. Children were also able to learn through imitation – watching others then repeating what they had seen. *Doing*, meaning allowing children to participate in different activities and experiences, was an important part of learning. It is of interest that the respondents felt that interactions were also a strong driver of learning – with teachers, parents and whānau and with their peers. This shows that the respondents thought that children were active participants in their own learning.

Graph 10.0 How children learn: Parent, whānau and teacher views (percentage of respondents)
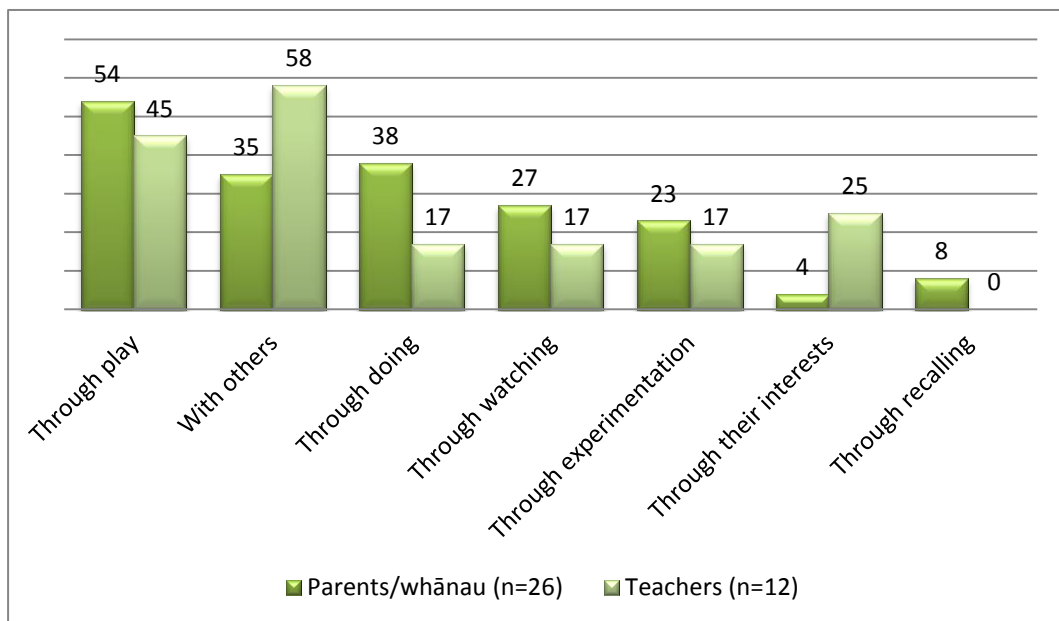
This question was followed up in the Initial Interviews with the case study participants, who were further asked to explain what role the paper-based portfolios, and subsequently the ePortfolios, had in supporting children's learning.

10.1.1 The role of portfolios in supporting children's learning – parent and whānau observations

The case study parents were invited to discuss the role of portfolios in their children's learning journeys in their initial and Final Interviews.

Using videos and how these connected to home

In her Initial Interview, Jasmine (parent, case study four) had said that children learnt by watching and doing. She did not think that the documentation in the paper-based portfolios supported this.   Her opinions had changed somewhat with the introduction of the ePortfolios, as she now thought that the formative assessment documentation contained in them could support children's learning, specifically because of the inclusion of videos with some Learning Stories.   Jasmine's children were always keen to watch the videos in their ePortfolios and did this over and over again. Through this revisiting, connections were being made to what the children were trying to do at home.   A story written for her son Jack included a video which showed that he had learnt how to ride a bike. Jasmine reflected that she hadn't been aware that he could do so until she saw that particular story "He learnt to ride a bike there and I did not even know until I read it [the learning story with video] and I was like, oh, okay" (Jasmine, parent, Final Interview, August, 2014). For Jasmine this meant that she could make sense of some of the things Jack had been trying to do at home. In this instance he wanted to build a ramp to ride down. Jasmine was wary of this "I would think oh my God, that's my baby" but because the evidence in Jack's ePortfolio showed that he could ride down a ramp she let him do this at home too.

Children are able to review their learning

Claire (parent, case study five), like Jasmine, recognised the different dimension that videos brought to Jordan's learning. In her first interview Claire had commented that the paper-based portfolio helped Jordan's learning process because it documented his experiences and showed what he had learnt from these experiences. She did not think that the introduction of ePortfolios had changed this.   She did think though, that the inclusion of videos added an extra

facet to her understanding of the learning experiences. She felt that looking at a video was different to looking at a picture and noted that Jordan would replay his videos again and again.

Conversations about the learning

Trudy (parent, case study one) had identified in the Initial Interview that she thought that children learnt through play and through revisiting their learning. Although she took the paper-based portfolio home once per week she did not use it with Lila to revisit learning. She thought that Lila liked the ePortfolio better and that this was because they were looking at it a lot more together now. Trudy now talked about revisiting learning with Lila. She said because the ePortfolio was so accessible that this enabled Lila to show her what she had been doing that day and then she could support Lila to continue this learning at home.

Restarting previous interests

Two parents, Pauline (case study two) and Sarah (case study six) noted the importance of portfolios in aiding children to recall, reconnect or restart their learning. In her Initial Interview Pauline stated that she considered that children learnt by doing and watching. She thought that the paper-based portfolios helped children to learn because they enabled children to revisit and restart previous interests. Pauline thought that the ePortfolios would still allow this to happen, particularly through the videos. For this family though, this was impacted on by the fact that the children very rarely looked at their ePortfolios at home. Pauline said:

> I guess when they do look at them; the videos probably are a better way of reminding them and showing them what they've done. If I do actually let them look at them or if they're around when I'm looking at them I think they are enjoying looking at the videos and that is a bit more of a cue than just looking at the pictures (Pauline, parent, Final Interview, August, 2014).

Sarah considered that children learn through their interests, and that to achieve optimum learning they would need support to follow the experience through.

I just believe that they learn by finding an interest and getting support to follow it through and get some outcomes. Just believe in providing support really for them to sort of do it themselves almost. I'm not a teacher so I don't know how to say it (Sarah, parent, Initial Interview, July, 2013).

The paper-based portfolio had an important role to play in learning, Sarah said. She felt that the Learning Stories contained in the portfolio allowed children to revisit learning and from this they could restart an interest. She said "…it restarts interests. Like going back to things that they had done before and remembering and trying again, maybe if they were not successful the first time" (Sarah, parent, Initial Interview, July, 2013). Like Pauline, Sarah indicated that she was not following this learning through with the ePortfolios as fully as she could. She did use the videos with the children but very rarely looked at the other contents of the ePortfolio with them.

Recognising and affirming strengths

Megan (parent, case study five) commented that children learn by trying new things and from playing with and interacting with other children. In the Initial Interview she said that the paper-based portfolio helped in the learning process because she could see their strengths and this enabled her to carry on their learning at home. Megan felt that the ePortfolios still did this, but she was now more involved. She said "I feel I'm more involved day to day or week to week, so I can consolidate that learning at home or talk about it…there's ideas that come through that are really good that we can then use at home" (Megan, parent, Final Interview, August, 2014).

Analysis

The responses from the case study parents clearly show that they thought that children learn through experiences, and that portfolios, in particular ePortfolios, can support learning. The inclusion of videos that the ePortfolios afforded was an important aspect of supporting and extending the children's learning and several parents referred to these as being useful for them. The parents appeared to be more involved in their children's learning through the ePortfolios and were looking at them with their children far more regularly than

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they were with the paper-based portfolios. By using the documentation contained in their children's portfolios (paper-based and online), the case study parents were enabling their children, when they were at home, to recall, reconnect with and restart learning experiences learning experiences which had occurred at the setting.

10.1.2 The role of portfolios in supporting children's learning – teacher observations

Like the case study parents, the key teachers for each case study family were also invited to share their thoughts through their initial and Final Interviews on the role portfolios play in children's learning.

Connecting and strengthening relationships between teachers and parents/whānau in ways that benefit the children

Joanne (teacher, case study two) felt strongly that children learn through relationships. The paper-based portfolio aided in developing these relationships, she thought. Through revisiting the documentation in the paper-based portfolios, the children were able to recognise relationships they had in the past, or were currently involved in, and could further connect with these. The paper-based portfolios also allowed Joanne to strengthen her relationships with parents and whānau and this in turn increased her ability to support the children to learn. Joanne felt that the relationships had become stronger with the introduction of the ePortfolios. An important aspect of the impact that the ePortfolios had on relationships with parents and whānau that Joanne had noticed was the way they encouraged extended family to be part of the ECE setting. She talked about one child in particular whose grandmother was in the United States of America. Through reading the stories on Educa the grandmother felt that she had got to know the teachers, children and the ECE setting's wider community before ever coming to visit. When the family had a new baby and the grandmother came to New Zealand for a month to support them, it was no problem for her to drop off and pick up her grandson from the setting. Joanne said "she got to share his stories from half way across the world, and now she's here and she knew us, she knew the room and the environment he was in" (Joanne, teacher, Final Interview, August, 2014).

Improving teachers' planning

Stephanie (teacher, case study four) considered that children learn best when they feel safe and secure. She thought learning could be built on when children were allowed to follow their own interests and passions, particularly if they were given the time and space to do so. Stephanie felt that there was potential for the paper-based portfolios to support this learning but she wasn't really sure how. She said "I haven't seen it in action though, not yet" (Stephanie, teacher, Initial Interview, July, 2013). Since the introduction of the ePortfolios Stephanie's thoughts around how portfolios could support children's learning had changed somewhat. She considered that the implementation of ePortfolios had improved teachers planning. She felt that because it was easier to review stories it was also easier to expand on them. Through doing this children's learning experiences were being extended. Stephanie thought being able to easily see what other teachers were writing also made planning for learning experiences simpler.

Involving the children in their assessment

Leslie (teacher, case study five) thought that children learned through play, interactions and exploration. She felt that their interests and passions played an important role in how they learn. Leslie noted that some children were hands-on learners whilst others were observers. In Leslie's view the paper-based portfolios definitely supported children's learning through teachers noticing, recognising and responding.

> In our documentation we write our stories based upon what we notice in children in that moment of whatever it is they are doing. We write down what we noticed and what we recognised as their learning. And then how we might respond. So we're noticing that a child might be exploring with their hands through texture and those things, and then responding how we might further develop that in the literature and all that supports the way that the child explores. That supports what the child has explored and learned (Leslie, teacher, Initial Interview, July, 2013).

Leslie regularly used the ePortfolios to support children's learning. She was also involving the children in the writing of their formative assessment documentation using the ePortfolios, something which she had not done with

the paper-based portfolios. Leslie had found the tablets that the setting provided for the teachers to use to document children's learning "a bit scary at first" but over the year she had worked out a strategy to become more familiar with them. She made sure that whenever she was an inside teacher she would use the tablets to document her Learning Stories. This was when Leslie was writing her Learning Stories alongside children; this meant that their voice was captured in the story as it was evolving.

> When I am inside teacher for sure I will only use the tablet to document my stories and I often sit beside the children writing their voices as they are involved in their learning. So then I will repeat back to them and share it with them to build on it along the way (Leslie, teacher, Final Interview, August, 2014).

Like Leslie, Georgina was also using the ePortfolios to involve children in their learning documentation. When the ePortfolios were introduced Georgina embraced the new concept. She was regularly using the ePortfolios on the floor with the children to support or extend their learning and, like Leslie, she was writing Learning Stories alongside the children. She also empowered children to be involved in their formative assessment documentation through photo selection, and near the end of the research period she was teaching the children how to upload their own photos.

Analysis

Like the case study parents, the key teachers could articulate the value of portfolios in supporting and extending children's learning. The introduction of the ePortfolios strengthened the way the teachers were already using the children's formative assessment documentation. Through using ePortfolios, relationships with parents and whānau had been further developed, the teachers' planning had become more robust and connected, and the children were being involved in their own formative assessment documentation.

Summary

It was clear that portfolios, paper-based and online, were an important part of supporting and extending children's learning in this ECE setting and its

community. Parents and whānau were able to recognise the ways in which paper-based portfolios could enhance their children's learning experiences, but as the previous chapter shows, they were not actively contributing to these. The introduction of ePortfolios saw a change in parent and whānau contribution, so their awareness of the support they could give to their children's learning in this way had increased. The inclusion of videos in the ePortfolios affected the way parents and whānau were involved in their children's learning and this was mentioned by a significant number of the participants as one of the most beneficial additions to the portfolio system. Most of the teachers were using the paper-based portfolios effectively to support children's learning and this continued with the introduction of ePortfolios.

10.2 Revisiting learning – recall, reconnect and restart

The teachers in the ECE setting were regularly using the paper-based portfolios to revisit children's learning with them. As mentioned previously, these interactions were usually initiated by the children. When the ePortfolios were introduced there was a shift here. The teachers were still regularly revisiting learning with the children, but now they were initiating these interactions more often than not using the children's ePortfolios. So, one of the key purposes of using portfolios on the floor of the ECE setting with the children was to revisit their learning.   In turn, this enabled children to recall, reconnect with and restart learning. It also meant that children were becoming involved in learning conversations with the teachers more often than in the past.

The value of photos and videos

Sandra (teacher, case study one) would revisit the children's paper-based portfolios but admitted that she hadn't done this much in the months leading up to the research period. When she did look at stories she had written for the children with them, she felt that her writing style was at a level that made it difficult for the children to follow the story.   Instead, she said, they would generally look at the pictures together and talk about what was happening in them. Sandra thought that the photos in the portfolios also helped children to feel a sense of belonging at the ECE setting. It was through the continual

revisiting of the portfolios that children are "knowing their environment well" (Sandra, teacher, Initial Interview, July, 2013). For Sandra, revisiting the contents of the ePortfolio was still just as important to children's learning as it was through using the paper-based portfolio. She noted that the children often asked to see their ePortfolios and this was when the revisiting occurred, as well as on the occasions that she was initiating the interaction with the ePortfolios. Sandra said that the children most enjoyed looking at and discussing the videos contained in the ePortfolios:

> …looking at the videos, the children are most interested in that. If you've [teacher] got a tablet and you might be taking some photos…they'll often come along and that's how it opens up the opportunity to revisit [the learning] on the tablet. (Sandra, teacher, Final Interview, August, 2014).

Joanne (teacher, case study two) also used the paper-based portfolios to revisit children's past learning experiences. In the setting's under-twos area, where she was located at the start of the project, the paper-based portfolios were either kept in a basket which the children could reach or in a low rack on the wall. This, Joanne said, meant that the children could access the portfolios whenever they wanted to. She had noticed a difference in the way the children in the under-twos used the portfolios depending on their age. The children closer to one year of age were more interested in the feel and enjoyed crinkling the pages, but she pointed out that the older children were definitely interested in going through the portfolio with a teacher or another child. It was for these older children that revisiting learning occurred the most. Of particular interest to this group of children were any photos which included teachers. I definitely noticed this in my observations in the under-twos area. There were several interactions between children and teachers when they were looking at these photos in particular. Joanne noted that the children in the under-twos were not particularly interested in the stories. She said "Sometimes I find when I do start reading the story, then often it doesn't reside with them too much, they like to turn the page, they want to see what's on the other page, and talk about those photos" (Joanne, teacher, Initial Interview, July, 2013).

Shortly after the introduction of ePortfolios, Joanne moved to the over-twos section of the ECE setting. She continued to use the ePortfolios to revisit children's learning with them on a regular basis. As Sandra had mentioned, Joanne also found the videos contained in the ePortfolios to be beneficial when assisting a child to recall learning experiences. When thinking about the videos, Joanne noted that they brought an extra dimension to planning for the children's strengths and interests. This was because teachers could view them again and again and each time they would notice things that they hadn't noticed before. They were also helpful for encouraging a child who was adamant that they couldn't do something, when the teachers knew that they could. Joanne provided a lovely example of this and the fact that the video was posted by a whānau member made the revisiting of the learning even more powerful.

> Recently I had a child telling me that they needed a push on the swing and that they can't. So I actually accessed the tablet, because there is a video of her, that her mother has put up, of her [the child] at the park, on the swing, pushing herself high, as high as high can be. So I sat down with her and said, look your mum shared this video with us and then she was like, oh yeah, that's me. Being able to share how your mum shared this with me, so now I know this about you, can you show me how you can do that? I think it was quite cool for her. Revisiting in that time and space, so again that video form is really powerful for them as well, because it's not just a photo and to see the way they react to their own accomplishments and knowing that mum put that there. "Oh okay, so now you know so I will have to push myself [child] every day now" (Joanne, teacher, Final Interview, August, 2014).

Children's sense of ownership and extending learning

Robin (teacher, case study three) saw the paper-based portfolios as an artefact to extend the child's learning. She noted the assessment for learning documentation contained in the portfolios allowed teachers to:

> …extend on what they're [children] doing and help them on their learning journey. And sharing their love of learning is another way of thinking about it too. When a teacher is excited about what a child's doing, parents soon pick up on that excitement, so yeah, I find them [portfolios] a very, very, valuable tool (Robin, teacher, Initial Interview, July 2013).

She supposed that the most important function of the paper-based portfolios was that they allowed the children to remember what experiences they had had in the past. She felt that the portfolios were a personal record of a child's journey and that the children felt a sense of ownership of their paper-based

portfolios. For this to be achieved, Robin considered that it was essential that the contents of the portfolio were shared with the children. She said "…the most important thing for me is that the stories are shared with the child. And that the child is aware that they've been recorded and shared" (Robin, teacher, Initial Interview, July 2014). After the introduction of the ePortfolios Robin still felt that they enabled children to remember past learning experiences. However, she thought that this was now a more timely occurrence. As the formative assessment documentation was uploaded and available for children to look at very quickly, they were able to recall learning, and perhaps reconnect with or restart the learning, within a much shorter time frame.

A way to provide high quality early childhood education

Paper-based portfolios and the included documentation were something that Leslie (teacher, case study five) valued very highly. She was confident in her ability to contribute worthwhile and effective documentation to the paper-based portfolios. Leslie thought that formative assessment documentation, such as Learning Stories, supported everything that they were doing at the ECE setting; in fact she felt that it was important for ECE in general. Leslie said that through using formative assessment documentation teachers became advocates for high quality early childhood education. They were able to confirm to parents and whānau that they were providing an excellent environment in which their children could grow, develop and learn. She said:

> I think the documentation in the paper format of portfolios is hugely, hugely important to what we do. And I spend lots of time, I don't mind spending time to write my stories for children because I believe that the portfolio should show the growth of the child and all the things that make that child that child, photos of their family, or Learning Stories, and their interests and their passions and their artwork, all their growth and development (Leslie, teacher, Initial Interview, July, 2013).

As with the paper-based portfolios, Leslie was using the ePortfolios as a tool to revisit learning with children. As her confidence with the technology increased she was doing this more and more. Leslie was one of the teachers whom I observed using the ECE settings tablets to access the children's ePortfolios on a

daily basis (see examples in 7.1.8 – *I want to paint a tiger* and *I don't feel very well*).

Analysis

It is evident that portfolios, in whatever format, are an important tool to help children to revisit their learning while in the ECE setting and when at home. By revisiting their learning children are able to recall past experiences and share these with a significant other or others. They are able to reconnect with the learning and perhaps pick up where they left off, or they are able to restart the learning and take this in a new direction if they desire. The additions of videos to the ePortfolios were an important aspect for this study. Inclusion of supporting evidence in this format enhanced the quality of the stories and children, parents, whānau and teachers could see the learning happening. Videos, as well as photos, captured the children's interest and encouraged them to participate in their own formative assessment documentation, increasing their sense of ownership (which was already strong in terms of the paper-based portfolios). The ePortfolios also allowed teachers to revisit past stories more easily, so that the stories were more connected. This meant that the written documentation showed growth and development over time. Each medium contained in the portfolios has different possibilities for communication and the inclusion of videos particularly strengthened this.

10.3 Portfolios as a teaching resource – supporting recalling, reconnecting and restarting

In the Initial Survey all of the teachers identified that paper-based portfolios were extremely valuable as a teaching tool (12/12). The Final Survey showed that the teachers also felt this was the case with ePortfolios, with all nine respondents agreeing that they were extremely valuable in this respect.

Communication as a team about all the children's learning progress

All of the teachers stated that their communication as a team had improved since the introduction of the ePortfolios. They were having rich conversations whilst on the floor about children's learning and how they could

extend and support it. This was something that previously had only really been discussed during specific planning meetings. The teachers were showing each other their stories with more excitement and enthusiasm, and this was something that had been noticed by the management of the ECE setting. The ECE setting's supervisor had noticed her teaching team working together as peer learners. She said that the teaching team was becoming involved in "peer coaching like around documenting. So we're looking at each other's and going I really like the way they wrote it that way, and then having a go" (Erica, Interview, March, 2015). The administration team leader who was heavily involved in setting up the ePortfolios system also noted that the ePortfolios were assisting the supervisor when she was mentoring her team. She said:

> The other thing I think it's really helped Erica in her role for mentoring and coaching staff by having it online, because it's much easier to provide that feedback. Or if she's approving a story it's sent to her, she can suggest changes and staff can quickly edit it with Erica, not having to go through paperwork. It just seems streamlined (Toni, Interview, March, 2015).

Planning for teaching and experiences

Robin (teacher, case study three) reflected that paper-based portfolios were a valuable resource for many reasons; one of these was their usefulness as a teaching tool. She said it gave teachers something to look back on and to be used in planning meetings. From these discussions with other teachers, Robin considered that the teachers could find common interests amongst the children and then extend on these interests as a group. Robin also used the paper-based portfolios as a tool to help her write new Learning Stories. She would reflect on what had been written and make links which she could then use to strengthen the story she was currently working on. Since the introduction of the ePortfolios, Robin said she still believed that portfolios were a most valuable teaching resource; however, she was now even more enthusiastic about the possibilities afforded by the ePortfolios. It was the things that could be added through the ePortfolio platform that had increased Robin's excitement and enthusiasm. Of particular merit was the ability to add videos to the Learning Stories and learning moments she was contributing. As noted previously, Robin thought that she

taught in a different way to most of the members of the team, particularly around risky and challenging activities. She said:

> But that's probably the other thing about Educa that I think is happening, teachers while not seeing what I'm doing are seeing the stories and understanding what I'm doing and why I'm doing it. In the last six months I suppose I've seen a bit of a change in the teachers too. They are starting to go, okay let's just see if we can step into this and follow the same journey (Robin, teacher, Final Interview, August, 2014).

Looking to the past for the future

Stephanie (teacher, case study five), who liked writing learning stories for the children in the under-twos section, thought that the formative assessment documentation contained in portfolios showed the children's learning journey over time. The paper-based portfolios allowed her, as a teacher, to look back on past learning events to assist with planning future experiences. She was of the opinion that the implementation of ePortfolios had improved teachers' planning. Because teachers were able to easily review the learning stories contained in the ePortfolios, Stephanie thought that the process of expanding on or supporting the learning had become simpler.

Georgina (teacher, case study six) also valued the paper-based portfolios as a teaching tool. Like Stephanie, Georgina used the formative assessment documentation in the paper-based portfolios to plan for the future. At the start of the data collection period Georgina thought that she was still learning how to best use formative assessment, this had shifted significantly for Georgina since the introduction of ePortfolios. She said:

> Educa is way easier for planning. It's been fantastic in that respect because it's so easy to access previous stories for a child and it's always there, whereas the portfolios go out of the centre. They're not always available, or if I'm outside and I want to access stories I can do it on the spot, rather than having to come and find a portfolio. Also, it's really easy to read what other teachers are writing so you can see, make links and then build up the planning from there. It's just having it all in one place that's so easily accessible and just easy to scroll back through and find a story that you might want to link the learning to (Georgina, teacher, Final Interview, August, 2014).

Leslie (teacher, case study five) had similar views to Georgina. She said:

> I would say Educa ePortfolios was easier for planning, because I think that you can look at individual children and identify their learning and their dispositions

for learning far quicker and easier than paper based. Because it's all electronic you can just tap into it and pull out what you need and go. Whereas sometimes with paper based, stories might fall out and then they get put back into the wrong place, so it can be a bit harder to follow (Leslie, teacher, Final Interview, August, 2014).

Analysis

The way in which the teachers were using the ePortfolios as a teaching resource closely links to the increase in collaboration discussed in Chapter Eight (8.1.3). The teachers were talking more about the ways in which they could use the children's formative assessment documentation to extend and support learning. From these discussions they were making connections to experiences they had witnessed and had thought of recording, sometimes leading to Learning Stories which were contributed to by two or more teachers. The teachers considered that through the introduction of ePortfolios their planning had become more effective, and a lot of this was because of the platform's ease of use.

10.4 What had changed?

The teachers, parents and whānau involved in this study recognised that the way children learn is multi-faceted, and this can be different for each child. However, they acknowledged the important role that portfolios, paper-based or online, can have in assisting a child to get the most out of their learning experiences. Through the formative assessment contained in a portfolio children are able to *recall* learning from past experiences. They are able to share this learning with others who are important to them. Portfolios allow children to recall experiences that they may not remember – for example something that occurred when they were a baby. Furthermore, portfolios allow children to extend on their previous learning experience. By *reconnecting* with past learning children can 'pick up where they left off'. They are able to return to an experience and try again – particularly if they were not successful the first time. Lastly, children are able to *restart* learning experiences through portfolios. They can take an interest and expand on it. An interest in dogs may extend to an interest in tigers, as demonstrated in Michael's *I want to paint a tiger!* example (7.1.8). The way these experiences have changed with ePortfolios is twofold. By

using electronic technology children are able to quickly access their learning at home with their parents and whānau. Their learning is affirmed and supported, and connections are made in a timely manner between the ECE setting and home.   The technology also means that teachers can quickly and easily extend on and support children's interests by accessing the internet, as Leslie did in the example mentioned above.

The increased collaboration amongst the teachers evident in their planning is a direct result of the introduction of ePortfolios. The teachers were using the ePortfolios far more effectively as a teaching resource than they were using the paper-based portfolios. The ease of use and ease of access were the main contributing factors to this.   It should also be mentioned that the responsiveness of the ePortfolio provider to changing or adding things to meet the teachers' needs, such as allowing larger video files to be uploaded, aided in this.

Nevertheless, even though the introduction of ePortfolios has been very successful for this ECE setting, it is essential to reinforce my previous statement that ECE settings need to ensure that the children's portfolios are accessible to them, to their whānau and to teachers.   ePortfolios allow adults to easily access children's formative assessment at any time they choose, and anywhere (provided they have access to the technology which allows them to do so). This is not necessarily the case for children. Whilst it is a strong finding of this study that ePortfolios are beneficial for children's learning, if they are not accessible to children some of these benefits are lost.

How the introduction of ePortfolios impacted on the changes

The contents and ease of use of the ePortfolios contributed substantially to the changes identified in this chapter. The parents and whānau particularly liked the inclusion of videos in the ePortfolios, something that was not supported in the paper-based format. They enjoyed looking at the videos with their children (and this was often prompted by the children) and through this medium

they could make connections to home. Through the multi-modal communication tools in the ePortfolios parents and whānau were assisting their children to recall, reconnect with and restart learning alongside the teachers.

The teachers felt that the ePortfolios were easier to use than their paper-based counterparts. They found that they were able to review the contents easily and that this meant that more robust connections to past learning were being made. The teachers were using the ePortfolios more effectively to plan for future experiences; in effect they were becoming skilled at using the past to plan for the future.

10.5 Summary and looking forward

This chapter has explored the prominent role portfolios have, in whatever format, in supporting children to recall, reconnect with and restart learning.   It has described how these learning experiences were supported and extended on through portfolios by parents, whānau, teachers and children. The changes made to the way children were supported to recall, reconnect and restart after the introduction of ePortfolios were also discussed.

The final chapter of this thesis follows. It will develop the findings into conclusions and implications for practice. It will also introduce the evaluative tool which has been designed to assist ECE settings in selecting which portfolio format suits their community and to find an ePortfolios programme which is educationally sound.

Chapter Eleven – Conclusion and Implications for Practice

11.0 Introduction

The concluding chapter of this thesis revisits the key components of the study, brings together and synthesises the findings, and discusses the main thesis arguments. The main purpose of this study was to make a valid and worthwhile contribution theoretically and practically to the areas of formative assessment in relation to portfolios (paper-based and online) and parent and whānau engagement with children's learning and communities of practice in early childhood education practice, especially in Aotearoa New Zealand. Each of these key themes will be discussed, highlighting the findings from the study. From these findings an evaluative tool has been developed to help early childhood education settings decide what is important to them in terms of formative assessment practices and parent and whānau engagement, and therefore determine which portfolio system would suit their setting (paper-based, online or both). The tool will also assist teachers and the ECE community to understand what is important for a sound, educationally based ePortfolio platform. This will also be included in this final chapter. The chapter closes with a discussion of the limitations of the study, recommendations for further research and a concluding statement. The following research questions were posed at the onset of research in one early childhood education setting and community (see Chapters Two and Three for an explanation of the purposeful nature of this choice):

(i) How does the introduction of an ePortfolio programme change teachers' formative assessments?

(ii) Does an ePortfolio programme assist parents and whānau in an early childhood education setting to engage with their children's learning? If so, in what ways?

(iii) In what ways do children use and contribute to their ePortfolio?

These research questions and subsequent findings are crucial to inform policy around assessment for children's learning, engagement of parents and whānau and teachers' formative assessment practices. Globally, ePortfolios

have been used for some time in primary, secondary and higher education. They are also being utilised more in these sectors nationally (see 2.0 for references). Technological developments are inevitable and there is a need to ask whether and in what ways ePortfolios can assist in building strong educational communities, and, what aspects might impede this building. As suggested by Facer (2011):

> …if we see education as having a role in mitigating inequalities and in contributing to the creation of fairer and democratic futures, we have a responsibility to ask whether socio-technical developments will contribute to or impede that role. We need to ask, 'who benefits?' in any of the visions of the future we are offered or that we are working towards. And we need to examine where educational institutions might productively play a role in helping to ensure that the least advantaged communities are equipped with a fair chance to shape socio-technical developments in ways that will not see them even further disadvantaged (p. 9).

Furthermore, there is very little documented research, either nationally or internationally, into the use of ePortfolios as a tool to engage parents and whānau, to support teachers' formative assessment practices and to establish authentic learning journeys for children in early childhood education. In Aotearoa New Zealand a number of ePortfolio formats have recently been introduced to early childhood education settings, many of them from private providers with little educational knowledge and/or support. Privatisation of the early childhood education sector is expanding; and the same holds for providers of services which are designed to support early childhood education. It is a danger, then, that the ePortfolio systems that are being promoted may not be fit for purpose – questions need to be asked about whether they support the desired learning outcomes espoused by *Te Whāriki* (Ministry of Education, 1996) and whether they foster equitable opportunities for children to engage in learning, and indeed for parents and whānau to become contributors to this learning (Cowie & Mitchell, 2015). Therefore, the findings of this thesis make an important contribution to the early childhood education sector for policy and practice.

Theoretical Framework

The concept of communities of practice was the theoretical framework used for this study. A community of practice is made up of a group of people who share a practice (Lave & Wenger, 1991; Wenger, 1998, 2011, 2015a; Wenger et al., 2002). In some cases the participants in a community of practice are passionate about and want to improve the practice. For this study the practice was supporting and enhancing children's learning through interaction and engagement with formative assessment documentation, such as Learning Stories (Carr & Lee, 2012; Carr et al., 1998; Carr et al., 2002), contained in portfolios.

Key findings

Several key findings have emerged from this study. Firstly, the analysis of the data, and subsequent discussion, highlighted opportunities for assessments using a portfolio to be effectively formative. This is evidenced in the changes in the ways parents and whānau engaged with children's learning following the introduction of ePortfolios to the setting. It is also apparent in the changes to the ways the teachers were writing formative assessments for the children: with the introduction of the ePortfolios they took a more critical and collaborative approach. The findings show that a portfolio, in whichever form (paper-based or online), can be a vital artefact in children's authentic learning journeys in an ECE setting that includes the children's parents and whānau. These findings all suggest that the introduction of ePortfolios has implications for the following:

(i)   Supporting teachers' formative assessment practices

(ii)   Engaging parents and whānau in their young children's learning

(iii)   Establishing authentic learning journeys for children in early childhood education

Furthermore, the introduction of a new tool for formative assessment in an educational setting also will significantly change the community of practice within that setting; this chapter will discuss this implication as well.

11.1 How did the introduction of an ePortfolio programme change teachers' formative assessment practices?

In Chapter Two the following passage from Black et al. (2004) was introduced to explain how assessment can become formative assessment. They noted:

> Assessment for learning is any assessment for which the first priority in its design and practice is to serve the purpose of promoting students' learning. It thus differs from assessment designed primarily to serve the purposes of accountability, or of ranking, or of certifying competence. An assessment activity can help learning if it provides information that teachers and their students can use as feedback in assessing themselves and one another and in modifying the teaching and learning activities in which they are engaged. Such assessment becomes "formative assessment" when the evidence is actually used to adapt the teaching work to meet the learning needs. (p. 10)

This study found that co-operation between *teachers and teachers,* and between *teachers and parents/whānau* impacted strongly on the formative assessment practices of the teachers (Mitchell & Furness, 2015). Changes to the way the teachers in this study carried out formative assessment were noted by parents and whānau and by the teachers themselves. Two significant changes were evident.

The first change observed was to do with the consistency and frequency of the additions to the children's portfolios following the introduction of ePortfolios. The study found that additions to the paper-based portfolios were irregular and inconsistent. There was often a significant length of time between additions; for some children this was up to several months. Also, each teacher's writing and formatting style was different and while this allowed for the individual personalities of the teachers to be evident in the portfolios it meant that important aspects of learning were not always being recorded (see Chapter Five). The inconsistency in the teachers' writing styles highlighted that what they were calling "Learning Stories" were in fact contrary to the expectations of this tool and what it was designed to do. After ePortfolios were introduced the frequency of additions increased markedly, with the children's ePortfolios at least doubling in size over the year of data collection from what was contained in the paper-based portfolios. The format of the documentation was also more

consistent after the introduction of ePortfolios, supported by the template provided for the Learning Stories, which all the teachers who contributed to the ePortfolios used. The provision of a template is a salient feature of a quality ePortfolio system – but **only if** it is designed and updated regularly in collaboration with the early childhood education profession and current research. There are dangers in using an ePortfolio system that is not informed by sound theoretical, research based and practical ideas on teaching and learning, as the key factors of formative assessment may be compromised (Black & Wiliam, 1998a, 1998b; Carr et al., 2015; Clarke et al., 2003; Crooks, 2002; Crooks, 1988; Hattie, 2010).

The second change noted was in the formative aspects of the assessment that the teachers were producing. The main formative assessment tools used by this ECE setting were Learning Stories and learning moments (see Chapter Two). The initial findings showed that before the introduction of ePortfolios there was not a great deal of difference between the two formats, as the stories that the teachers were writing as Learning Stories did not always contain all the necessary components[25]. The introduction of ePortfolios prompted a noticeable change here, and this is where collaboration (as mentioned above) was important. The formative assessment documentation the teachers were writing for the children's ePortfolios had become a much more frequent and more considered reflection on what learning was occurring. The teachers' stories noticed learning; they were no longer just a moment in time. They almost always included recognition of what learning was happening and then made suggestions for future possibilities to extend and support that learning. Furthermore, the teachers were using research to strengthen the Learning Stories. They were making links to relevant theory and literature (see the Learning Stories in Appendix Ten for examples), and in particular were making links to the early childhood curriculum, *Te Whāriki* (Ministry of Education, 1996). Additions of media, such as photos and videos, complemented the stories, rather than

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[25] Learning was not always identified and ways to support and extend learning were not always included (see Carr, 2001; Carr & Lee, 2012).

Learning Stories being based only on a photo that had been taken, as had occurred in the past (when stories were written about photos, rather than photos being used to highlight the learning). Parents and whānau felt that this added an extra dimension to their children's learning journeys and seemed more inclined to add their own comments and contributions (see Chapter Seven). This produced a cycle of enhanced learning as teachers, encouraged and affirmed by the comments from parents and whānau, took the children's learning to the next level, as discussed by the teachers in Chapter Seven.

Figure 11.0 Cycle of collaboration between teachers, parents and whānau using ePortfolios
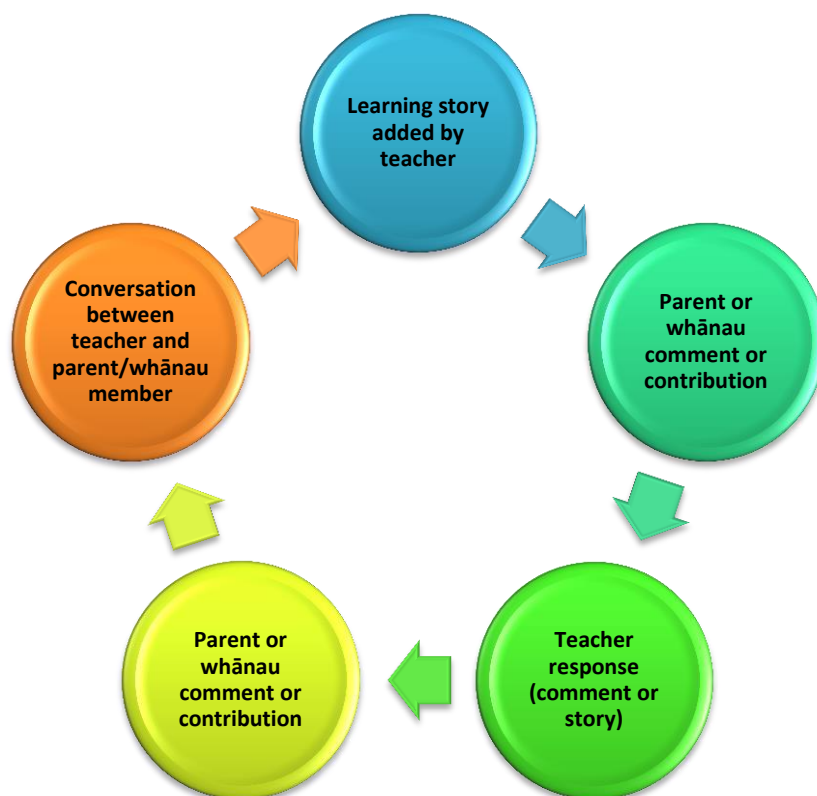
Conversations about children's learning and how to support and extend this between teachers had become more collaborative, and were no longer limited to staff meetings. Several teachers noted that they were reflecting on what their colleagues had written prior to completing a new learning story. This meant that there was no longer a 'doubling up' of documentation; more joint Learning Stories were being written (by two or more teachers) and teachers

were seeing children's learning through each other's different lenses. A further cycle of co-operation had developed amongst the teachers.

Figure 11.1 Cycle of collaboration between teachers using ePortfolios
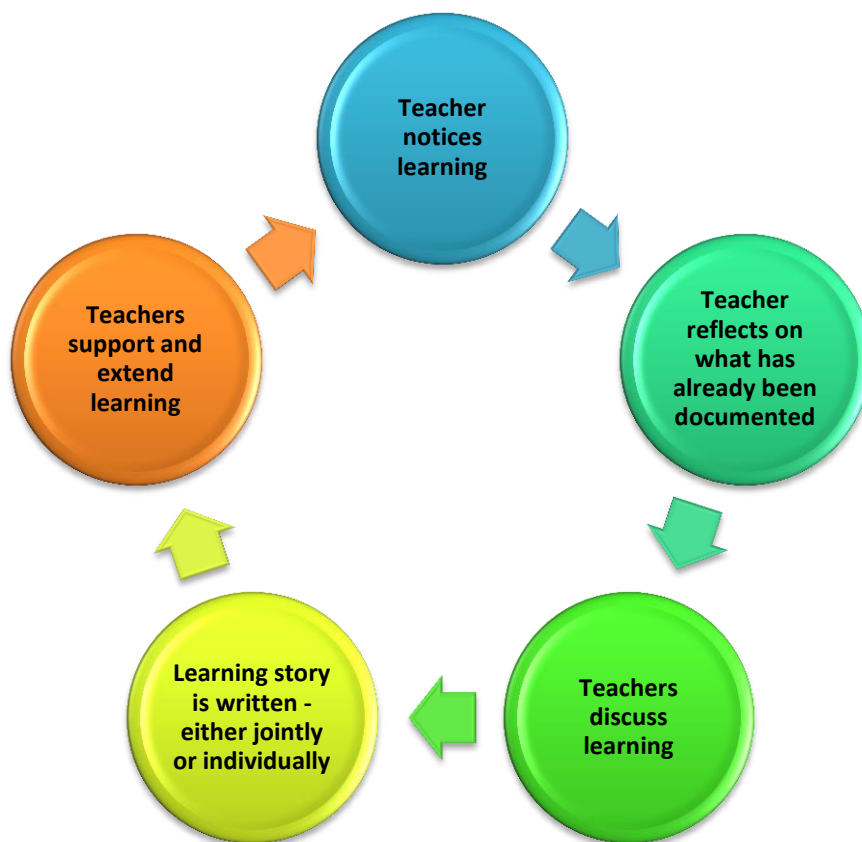
These changes had implications for the ECE setting. As the teachers' passion for writing formative assessment documentation was further encouraged by using the ePortfolio platform, several noted that they were working on the documentation at home. While the teachers in this study all identified that this was absolutely their choice and was something that they wanted to do, the possibility of 'work creep' into home life needs to be acknowledged.

A further implication is the need for regular professional development to enable the teachers to continue to use ePortfolios effectively. Advances in technology are rapid and therefore teachers need to remain current with these to make sure that the ePortfolio system continues to reflect the aspirations of

children, parents and whānau, as well as those of the teachers and the ECE setting's pedagogy and national curriculum requirements.

Although the ePortfolio platform allowed for creative additions and responses from the teachers, some of the participants in this study noted that the introduction of ePortfolios saw a reduction in the way the personalities of the teachers came through in the children's formative assessment documentation (see Chapter Seven). However, creativity and individuality could be retained and indeed expanded on in ePortfolios through the ability to add videos and voice recordings, maintaining the visibility of the personalities of all who contribute to them.

There was a noteworthy trend towards the end of the study for teachers in the ECE setting to more often include children in their assessment documentation in ePortfolios (see Figure 11.3) was noteworthy. By enabling children to become part of their learning journey through becoming co-constructors of that learning, that is, engaging in self-assessment, the fundamental tenets of formative assessment are achieved (Black & Wiliam, 1998a, 1998b).

If ECE settings consider having only ePortfolios then they must ensure that the technology is available to allow the children to access their portfolio whenever they want to, and that children are encouraged and invited to be co-constructors of their learning alongside the teachers, parents and whānau (see Chapters Nine and Ten). If this is not something that the ECE setting can provide then it is imperative that they either remain with only paper-based portfolios or have both systems operating.

11.2 How did an ePortfolio Programme assist parents and whānau to engage with their young children's learning?

This study has clearly demonstrated the benefits of parent and whānau engagement in their young children's learning through formative assessment documentation, and this increased significantly with the introduction of

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ePortfolios. Although there was interaction with the paper-based portfolios, parents and whānau were not actively contributing to them at the start of the research period. The introduction of ePortfolios resulted in a dramatic change in parent contributions. These contributions included comments, stories, photographs, videos and effective conversations with their children and with teachers. Who was contributing to the children's formative assessment portfolios had also changed, with an increase in extended family (whānau) participation. Grandparents, aunts, uncles, siblings and friends had become visible in the children's learning journeys and many were added as recipients of the digital Learning Stories and other assessment documentation.

Changes were also seen in who was initiating the interactions with the children's portfolios. ePortfolios saw an increase in parent and whānau initiation, whereas the children continued to be the initiators of interactions with their paper-based portfolios. This again highlights the importance of ECE settings thinking about how children, parents and whānau are able to access their formative assessment documentation. Access to technology must be considered here. For some families there may not be the same availability of technology to allow them to be involved in the children's ePortfolios outside of the ECE setting. Other families may not wish to use technology for other reasons, such as religious beliefs. It is imperative that when thinking about implementing an ePortfolio system ECE settings take individual family situations and personal preferences into consideration, so that an inequitable divide between families does not occur (Cowie & Mitchell, 2015). ECE settings must ensure that all families are supported to access their children's formative assessment documentation if it is contained solely within an ePortfolio. If this cannot be achieved then settings need to reflect on whether this is the right platform to use for their community.

Children's access to technology at home

It is important to note here that a number of the children at the ECE setting during the course of the study were not encouraged to use, or allowed

access to, the technology required to view their ePortfolios at home. This was because the parents in these families had the perception that the children would be distracted from traditional forms of play (such as playing outdoors) by the digital ICT tools, or that they were too young to use them. This reality for some of the children in the present study could have contributed to the fact that they were not initiating interactions with the ePortfolios as often as they were with their paper-based portfolios.

11.3 In what ways do children use and contribute to their ePortfolios: Building authentic learning journeys for children

From the findings it is very clear that portfolios can be a vital artefact to aid children, teachers, parents and whānau to construct authentic learning journeys. My definition of the way that children use their portfolios is *recalling*, *reconnecting* and *restarting* (see Chapter 10). Through portfolios children can *recall* their learning. This includes 'recalling' an experience that they couldn't originally remember, for example from when they were an infant. During my observations it was evident in the ECE setting that the children regularly used their paper-based portfolios as a prompt for this, remembering experiences with a significant other, then going on to use the portfolio as a prop in further conversations. While some literature discusses the use of portfolios for conversations between parents and teachers (Cohen, 1999; Weldin & Tumarkin, 1998/1999), there appears to be little mention of the use of portfolios as a conversation starter between children. The value of portfolios to encourage communication and for children to engage in thinking about their learning was a new finding in my study and one that is worthy of further exploration. Through portfolios, children were able to *reconnect* with learning experiences. They would recall the experience then pick up where they left off; this could be finishing a task or attempting something again. Portfolios also encouraged, supported and extended children to *restart* learning. From recalling and reconnecting with the learning experience children were invited or encouraged to take it further, moving in a new direction or expanding their original intent. This is the essence of formative assessment. For all of this to happen, children

must be able to access their portfolios wherever and whenever they choose. *Being unable to do so would be the biggest failing of an ECE setting which relies solely on an ePortfolio system*. Within ECE settings, paper-based portfolios are usually placed where children, teachers, parents and whānau can easily access them. This study found this not to be the case with ePortfolios. In the ECE setting where the study was based, children could only access ePortfolios with the help of a teacher, and as limited technology was available only a few children could look at their ePortfolio at any given time. The parents and whānau reported similar problems at home. Many of the parents accessed the ePortfolios on their Smartphones or other mobile devices, and their children were often not allowed to use these. For some families, interactions with their children and their portfolios had actually decreased with the introduction of the ePortfolios.

Children's access to portfolios (paper-based and online)

Children's access to their formative assessment documentation is not only physical. The formats used for formative assessment must also be accessible for children. The contents of children's portfolios need to be open to children's 'reading' and contribution; therefore the nature of the documentation contained in any portfolio is a critical issue. While it is possible with paper-based portfolios for children to easily add their own documentation, such as artwork, this may not be so with ePortfolios. For this reason the platform of the ePortfolio must be educationally sound and must support purposeful assessment. By providing a template, as Educa did in this study (see 1.4), teachers, parents and whānau can be guided to include the essential components of formative assessment – what is happening, identifying learning, and providing feedback and ideas to support and extend learning. By enabling multi-modal aspects, such as video and voice recording, to be included ePortfolios can further strengthen formative assessment documentation which promotes recalling, reconnecting with and restarting learning. The ePortfolio platform also needs to be 'user friendly' – for teachers, parents and whānau *and* children. Children should be able to add their own documentation, such as

uploading a photo or video, or indeed even recording their own Learning Stories and moments.

This thesis therefore raises ten questions that early childhood education settings must consider before implementing ePortfolios.

(i)   Does the ECE setting have the required internet access to support ePortfolios (i.e. wireless and sufficient data allowance)?

(ii)   Will the setting have sufficient technology available for children to access their ePortfolios whenever and wherever they want to, unassisted?

(iii)   Will the technology available allow several children to access their ePortfolios at the same time?

(iv)   Will the ECE setting involve children in selecting the documentation to be uploaded to their ePortfolios, as the teachers in the ECE setting in this study were beginning to do?

(v)   Will children, parents and whānau be supported to add documentation which contributes to an authentic learning journey?

(vi)   Is the ePortfolio platform based on sound educational research which promotes the essential aspects of formative assessment and is framed around key learning outcomes and opportunities to learn?

(vii) How will parents and whānau be supported to interact with the ePortfolios alongside their children and the teachers?

(viii) Will the ECE setting provide opportunities and equipment for parents and whānau who do not have the required technology to access their children's ePortfolio on an equitable basis?

(ix)   Will the ECE setting provide sufficient technology for the teachers to access ePortfolios wherever they are in the setting, or allow them to use their own devices utilising the service's internet?

(x)   Will the teachers be supported with relevant and worthwhile professional development so that they can implement ePortfolios to their full potential?

These questions require serious consideration when contemplating whether to implement an ePortfolio system into an ECE setting. The evaluative tool described in 11.7 below will support ECE settings to decide which format or formats of portfolio will be appropriate for them. It will also enable educational communities to understand what is important to look for in an ePortfolio programme.

11.4 Fostering a strong community of practice

At the onset of this research I believed that the community of practice in the ECE setting was only just beginning to develop and termed it a juvenile community of practice. Teachers were directly involved in children's learning through producing the assessment documentation for their paper-based portfolios. Children, parents and whānau were involved but their contributions to the portfolios were limited. At the start of the research there were few tangible artefacts in the children's portfolios that had been added by themselves or by their parents and whānau. Again, significant changes were noticed with the introduction of ePortfolios. These changes were evident in parent and whānau contributions to the ePortfolios. The artefacts they were adding contributed directly to the children's learning journeys, adding to their authenticity. There were also changes to the conversations that parents and whānau were having with the teachers about their children's learning (as noted in 11.4 above, see also Chapters Seven and Eight), so that connections between the ECE setting and home had become explicit. There was an increased sense of belonging within the ECE setting, particularly for extended family who lived in different locations. This could be described as a community who had a shared practice (children's learning) and who sought ways to improve this practice (support and extend children's learning).

Through these changes the three key tenets of a community of practice (CoP) as defined by Lave and Wenger (1991) are evident. The members of this CoP had a *domain (alternatively termed mutual engagement)* – they shared a common aim and interest, engaging in children's learning. Through the strengthening relationships (teachers, parent and whānau), which developed

from the introduction of ePortfolios, the members of the CoP had gained a better understanding of each other as they pursued the aims of the group, thus establishing the *community (alternatively termed joint enterprise)*. Finally, the CoP had developed a *shared practice (alternatively termed repertoire)* as they contributed and shared tangible artefacts to the children's ePortfolios.

Figure 11.2 Changes to the community of practice
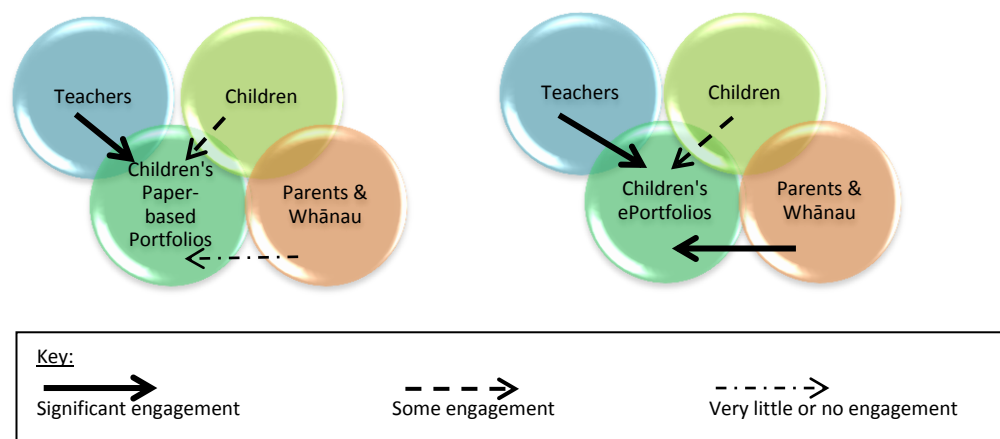
Several other aspects of being a member of a community of practice in terms of membership, participation and belonging were further developed during the course of this study in the CoP within the ECE setting.

Membership and participation

As the community of practice in the ECE setting became more established, the membership and participation changed and developed. The teachers, parents and whānau who engaged with the ePortfolios became committed members of the CoP. For the children this was just beginning to change towards the end of the research, as they began to make their own contributions to their ePortfolios.

Modes of belonging

Wenger's (1998, 2000) three modes of belonging - engagement, imagination and alignment - all became apparent as the CoP in this study grew. The teachers, parents and whānau were all in the engagement phase as they worked together to produce formative assessment artefacts. To some extent the

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children were also in this phase, as with membership and participation this was beginning to increase towards the end of the study. Teachers, parents and whānau also contributed to the imagination phase as they began to introduce new ways to interact with the practice (children's learning) through the multi-modal technology that the ePortfolios afforded (for example videos and voice recording). The final phase, alignment, wasn't evident in this study but had the potential to develop as members of the CoP look outside of the group to align their practice with the wider ECE community.

Identity

Through involvement in the CoP the members' identity can change. Those who were newcomers can become established members who make regular contribution to the shared practice. In this study this was true for the parents and whānau. As they became more engaged with their children's learning through ePortfolios the parents and whānau were establishing a stronger identity in the CoP, and were therefore becoming more confident in their participation.

Leadership

While the CoP in this setting had very strong leadership at the beginning of the research, this leadership was becoming dispersed. Wenger (2000) noted that while a CoP depends on central leadership (in this case the setting's supervisor), new leaders were emerging. These leaders took various roles, as suggested by Wenger (2000). There were "thought leaders" – teachers, parents and whānau who regularly engaged in conversation about children's learning and collaborated around this (see figures 11.0 and 11.1). There were also "pioneers" – teachers, parents and whānau, who were finding new ways of contributing to children's authentic learning journeys through technology and research.

Children's contributions to their ePortfolios

During the study there was little movement in the way the children were contributing to their ePortfolios, but this was beginning to change near the end

of the research period (see 10.1.2). Several of the teachers had begun actively including the children in decisions around what should be uploaded to their ePortfolios. They had also begun to write Learning Stories alongside the children, so that their voices were captured in the formative assessment. Something to consider here is increasing the children's engagement and involvement through a curriculum similar to the one described by Schallhart and Wieden-Bischof (2010) from their research in an Austrian kindergarten (see 2.4.3). By being active participants in selecting what is to be added to their ePortfolios, children are empowered to become co-constructers of their learning journey alongside their teachers, parents and whānau. They would also become fully functioning members in the community of practice, in terms of contributions to their formative assessment portfolio, rather than sitting on the periphery.

Figure 21.3 Cycle of collaboration between teachers including consultation with children using ePortfolios
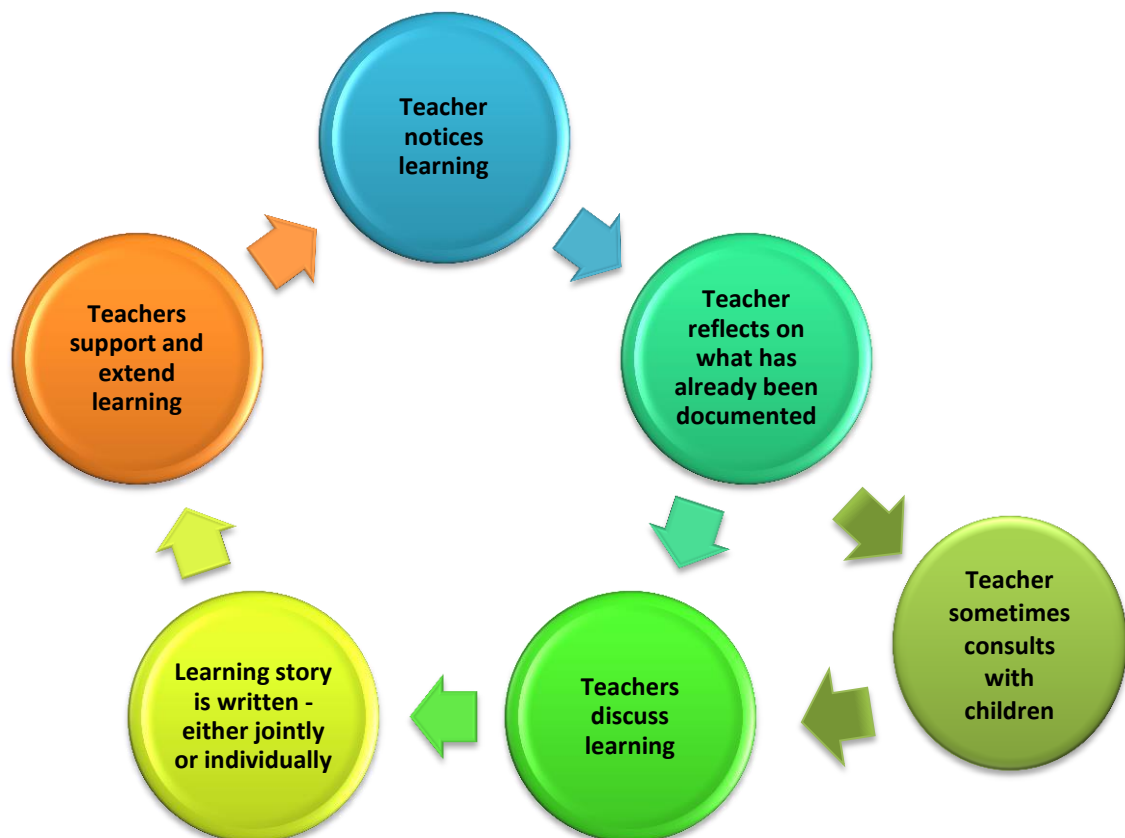
11.5 Evaluative tool for use in ECE settings

I have devised an evaluative tool for ECE settings to use when considering implementing ePortfolios as a formative assessment documentation platform. The tool is designed to enable settings to think about some of the necessary things that they will be required to have or do to make ePortfolios a successful learning artefact for children. The tool requires settings to consider the following aspects, building on the ten questions raised in this thesis (see 11.3):

   (i)   Internet availability and access;

   (ii) Technological resources available to children, teachers, parents and whānau;

   (iii) Contributions from children, parents and whānau are allowed and encouraged;

   (iv) Professional development available for teachers.

Furthermore, the tool emphasises the essential features required in an ePortfolio platform to ensure that it is "fit for purpose", that is, it supports parents and whānau to be actively engaged in their children's learning, it encourages sound formative assessment practices, and it allows children to *recall*, *reconnect* with and *restart* learning.

By utilising this tool ECE settings will be able to determine which type of portfolio is right for them and their community. It will also assist them to identify the critical features of an educationally sound ePortfolio platform. The tool is available in paper-based format as a flow chart (see Appendix Eleven) or online:

https://sites.google.com/site/ePortfoliosinece/home

11.6 Limitations of the study

It is important to acknowledge the limitations of this study. The success of the ePortfolio system can be largely credited to the professionalism and commitment of the teaching team, and in particular the setting supervisor, within this particular ECE setting. The ECE setting was also committed to employing 100% qualified early childhood education teachers. Similar results

may not be obtained within settings with a significantly different pedagogy. A further limitation is that all of the families within this setting had access to electronic technology, either in their own homes or in their places of work. Again, this may not be true of all ECE settings, particularly those that work within low socio-economic communities or with different philosophies, therefore the results may be different if a similar study was to be implemented within these settings. However, many aspects of quality formative assessment using portfolios also apply to paper-based portfolios, and indeed the study suggests that the children may have better access to the latter.

11.7 Areas for further research

There are several areas for possible future research related to portfolios, and in particular ePortfolios. First and foremost, the effectiveness of ePortfolios as a standalone platform without paper-based portfolios, as a resource for children and their families to access, warrants further investigation. The majority of the participants in this study identified that they would choose an ePortfolio system over a paper-based one; however, little is known about what impact this would have on children and their learning journeys. This study has clearly shown that the children's access to formative assessment documentation plays a key part in maintaining the authenticity of their learning journeys. Therefore if access is limited, the question "How will children's learning be affected?" needs to be asked.

Secondly, the ways in which children contribute to their learning journeys through formative assessment documentation needs more exploration. ePortfolios unlock the capacity for this to occur. Children could become active participants in their own ePortfolios and those of their peers. Although the ECE setting in this research had begun to include children in selecting what was uploaded to their ePortfolios, there are further opportunities to expand this. The incorporation of children's voices which are clearly visible in their learning journeys could have immense potential. By utilising various forms of media, such as video and voice recording, children would be able to record their own stories. They would also be able to record stories for their peers, adding another

dimension to authentic learning journeys, particularly as children learn alongside others.

Another area for consideration is the way portfolios are used with infants. The teachers in this study noted that the parents and whānau of the children in the under-twos section were less inclined to engage with the formative assessment documentation. It also appeared that the teachers had a different view as to what the very youngest children were capable of in terms of being extended and supported through formative assessment documentation. In light of the recent report on infants and toddler for Aotearoa New Zealand's Education Review Office, which discovered that almost half of the ECE settings in this country do not have a strong enough focus on exploration and communication (Education Review Office, 2015), this area needs to be explored.

Finally, the degree to which parents and whānau could become involved in their children's formative assessment could be explored in some way. More discussion on how to encourage parents and whānau to add effective learning documentation to ePortfolios is needed. The parents and whānau in this study had begun the journey using the platform much as they would use a social media platform, adding 'likes' and limited comments such as "well done". However, this had already changed markedly for some families as they began adding comments which reflected how the learning was continuing at home or how they had encouraged their children to extend the learning. Some parents and whānau had even begun adding learning moments and Learning Stories. What was it about these families that made them begin to change the way they contributed to their children's learning journeys? Furthermore, how can parents and whānau be supported to use ePortfolios effectively alongside their children? EPortfolios have the power and potential for supporting parents and whānau to effectively become co-educators alongside the ECE setting's teachers, as suggested by Mitchell (2003). Why, and indeed if, they choose to do this needs further investigation.

11.8 Concluding statement

Educational portfolios, in whatever format, are vital artefacts which can support and extend children's learning through empowering them to *recall*, *reconnect* with, and *restart* learning experiences. The limitations of practice using paper-based portfolios can be addressed through the use of ePortfolios as a platform for children's formative assessment documentation. This will happen **if, and only if,** the platform is thoughtfully and meaningfully constructed using a sound theoretical base and evidence from practice. EPortfolios can allow learning to be documented in ways beyond the affordances of a paper-based portfolio. The addition of video and voice recording adds another dimension and was indeed one of the key beneficial features of ePortfolios found by this study. EPortfolios also allow for increased parent and whānau engagement as they can access the platform whenever and wherever they want to and are consequently more likely to contribute. However, ePortfolios come with their own dangers if not used correctly. If an ePortfolio system is the only place in which children's formative assessment documentation is stored then the portfolios **must** be available for children to access whenever, wherever they want, unassisted. If children are not able to do this then the formative benefits of being able to revisit their learning experiences are minimised.

While I consider that ePortfolios are an excellent tool for documenting formative assessment and have limitless potential, the findings in this study would warn ECE settings to proceed with caution about choosing to use only this platform. One of the key purposes of early childhood education is to assist teachers and children to construct authentic learning journeys together, and formative assessment documentation is a key component of such journeys. Hence, practices will need to ensure that children's ability to effectively access their portfolios and to contribute to them is not lost.

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Appendix One – Ethics application and approval

THE UNIVERSITY OF WAIKATO
FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE

APPLICATION FOR ETHICAL APPROVAL OF
<u>SUPERVISED GRADUATE/POSTGRADUATE RESEARCH PROJECTS</u>

The purpose of this form is to give the Faculty of Education Research Ethics Committee sufficient information to make an informed judgment about the ethics of your application

Date of Submission: 15th May 2013

Name of applicant: Tracey Ann Hooker

Contact address: 414 Matangi Road, RD4, Hamilton 3284

Contact phone number: wk: 078587559, hm: 078295944, cell: 0274295945

Email address: tracey.hooker@wintec.ac.nz

Programme of study: PhD

Department/centre/unit: Wilf Malcolm Research Institute in Education/Human Development and Counselling/Professional Studies in Education

Principal supervisor: Professor Margaret Carr

Current qualifications: Master of Education; Postgraduate Diploma in Education; Bachelor of Education; Diploma of Education (ECE); Certificate in Adult Tertiary Education.

Current employment: Principal Academic Staff Member/ECE Academic Leader employed by Wintec

Title of project: *Adults and children engaging with ePortfolios in an early childhood education setting.*

Interest in topic

As an early childhood education teacher first and foremost I have always had a strong interest in young children's learning and assessment. During my time teaching I discovered that it was often difficult to engage parents and whānau in their young children's learning. Many factors contribute to this, but most often it seems to be time that constrains this engagement. As a tertiary lecturer teaching on a field-based initial teacher education qualification students often report to me that this is still the case. Over the last couple of years there has been a real drive at Wintec for staff to incorporate blended learning tools in their teaching. As part of this we are offered professional development in ICT skills. In 2011 I undertook professional development in the use of ePortfolios. The ePortfolios presented in this session were the intended platform for the Ministry of Educations pilot ePortfolio project with schools. As I discovered more about the benefits of ePortfolios I wondered about the possibilities of utilising them in an early childhood education setting. I am interested in making comparisons between documenting children's learning and assessment in this way against the traditional paper based model, if using an ePortfolio makes any difference to the ways that teacher's document learning and

how parents, whānau and children engage with ePortfolios as opposed to traditional paper-based portfolios.

Other personnel: ePortfolio provider - Educa

1. <u>**Details of the Project**</u>

   a) Research question(s)

   1. Does an ePortfolio programme assist parents and whānau in an early childhood education setting to engage with their children's learning? If so, in what ways?
   2. How does the introduction of this programme change teacher's formative assessments?
   3. In what ways do children use and contribute to their ePortfolio?

   b) Justification
   Children of the 21st century are being continually exposed to an array of ever evolving technology (Carr & Claxton, 2002; Carter-Ching, Wang, Shih, & Kedem, 2006; Dooley, Flint, Holbrook, May, & Albers, 2011; Grey, 2011; Kankaanranta, 2001). In 2007 Morgan noted that although children are familiar with new technologies in the home they tended to be slow to filter into early childhood education settings. However other research indicates that this is no longer the case as children are being exposed to more and more technology within such settings (Fleer, 2000, 2011; Grey, 2011) . I would argue that there are still a significant number of early childhood education settings, both nationally and internationally, who do not use high levels of technology in their programmes. This could be for varying reasons such as demographics, location, age of teaching teams and financial implications. The centre that is to be involved in this study is in this situation. They are yet to have access to the internet and the computers already in the centre are used for educational games only. I believe that it is important in today's educational environment that children are able to access technology (if they choose to) alongside traditional methods of learning. It is also important that parents and whānau are given the opportunity to engage with and support their children's learning. Research has shown that children whose close family are interested in and involved with their learning from a young age are more likely to do better in more formal educational settings and later life than those whose parents and/or whānau are not engaged with their learning (Halgunseth, 2009; Hango, 2007; Waanders, Mendex, & Downer, 2007). As Douglass (2011) further notes parent and whānau engagement is also a widely acknowledged indicator of quality in early childhood education.

   This proposed research is therefore significant for several reasons. It aims to give parents and whānau another way to interact with and contribute to their children's learning through accessing ePortfolios. This will enable more time to be spent with the children and their ePortfolios by parents and whānau and also will also allow contributions to be made from remote locations with ease. Secondly, it is bringing this particular early childhood education setting into the 21st century in terms of technology use. This will in turn demonstrate to other environments that are yet to embrace high levels

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of technology that such technology can be beneficial for all involved, that being children, parents, whānau and teachers and can contribute significantly to children's learning. It is important to note here that the intention or this research is not to replace traditional paper based portfolios with ePortfolios as they are extremely important as a learning tool, particularly for children to revisit their learning with others. It is envisaged that the two systems will complement each other. Finally, although some research has been carried out which explores children's use of computers and the internet (Dodge, Husain, & Duke, 2011; Grey, 2011; Wood, Specht, Willoughby, & Mueller, 2008; Yurt & Cevher-Kalburan, 2011); there is sparse literature which investigates the use of ePortfolios in early childhood education so this research will make a significant contribution to this field.

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c) **Procedure for recruiting participants and obtaining informed consent**

An early childhood education setting in Hamilton will be the location for this research. ███████████████████████ has been approached by the researcher and management has confirmed that they would like to participate in the research study. The parents, whānau and staff from ██████ ████████████████████ will initially be invited to participate through a letter introducing them to the project (appendix A), at this point they will be able to sign an 'expression of interest' form. All potential participants will be invited to an information meeting where the research will be described more fully. They will be able to ask questions of the researcher at this time. Once the participants have agreed to be part of the study they will be given a consent form (appendix B) to sign. In regards to the children this consent will be given by their parent/caregiver.

This research will contain case studies of six individual children, their parents and/or whānau and their key teachers (the teacher assigned to the family in terms of pastoral care and assessment). The case study families will be chosen based on the following criteria:

- All will have had an older child attend (or still attending if a close in age older sibling)████████████████████████. This will give the parents/whānau the opportunity to compare assessment practices over time.
- Two case studies from each age group: infants (under two), toddlers (two – three) and pre-schoolers (three – five). By having children from different age groups the research will be able to identify if there are any differences in the way assessment practices occur for children of different ages.
- If more than six families meet the criteria for the case study then the six required will be selected randomly.

d) **Procedures in which research participants will be involved**

i)   An initial survey will be undertaken with parents, whānau and the teachers to document use of and engagement with traditional paper based portfolios. This will be available online or in a paper-based format depending on the participant's preference.

ii) Initial semi-structured interviews with parents and/or whānau, key teachers and children of the six case studies will be undertaken to form the basis of the case studies. The semi-structured interviews will use the children's existing portfolios as props to inform the conversations. These will be audio recorded.

iii) The early childhood education staff will be invited to undertake training on ePortfolios. It is envisaged that this will be during a regularly scheduled staff meeting. On-going support will be provided by the ePortfolio provider.

iv) After the implementation of the ePortfolio system a further survey will be given to all participants to document initial feelings and use of the ePortfolio system.

v) After a year of implementation of the ePortfolio system final individual semi-structured interviews will be undertaken with the parents and/or whānau, key teachers and children of the six case studies to document the use of and engagement with the ePortfolio system. The semi-structured interviews will use the children's new ePortfolios, alongside the paper-based portfolios, as props to inform the conversations. These will be audio recorded.

vi) A final survey will be undertaken with parents, whānau and the teachers to document use of and engagement with ePortfolios. This will be available online or in a paper-based format depending on the participant's preference.

vii) The portfolios (both paper-based and ePortfolio) of the case study children will be analysed in terms of the nature of the assessments in each, frequency and nature of the contributions, who the contributions are made by, and any links to learning which are identified by the contributors.

e) Procedures for handling information and materials produced in the course of the research

The interviews will be recorded on audio tape. These will be transcribed and the tapes will be labelled (using pseudonyms) and stored in a locked drawer in the researcher's office at her home. The data will be held securely for five years and then will be destroyed. The surveys will be offered in both digital and paper-based formats. The responses will be kept with the interview transcripts for five years and then destroyed. Access to the data will be restricted to the researcher and her supervisors.

2. <u>Ethical Issues</u>

a) Access to participants

The researcher has an already established relationship with ▭ ▭ as she was previously employed by ▭ ▭ (the umbrella organisation the centre falls under) as a Home-based Childcare Co-ordinator. As the home-based offices are located next door to the centre the researcher is familiar with the layout and teaching philosophy of the centre.

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Informal discussions have been held with [REDACTED] management and senior staff and they are very interested in the project and for the centre's community to be involved.

b) **Informed consent**

The participants will be asked to sign a consent form (appendix B) giving their informed consent to be involved in the research. In regards to the children this consent will be given by their parents or caregivers who will sign a consent form on their behalf. The children who will be involved in the case studies will be told about the study and asked for their assent if they are verbally able.

c) **Confidentiality**

To protect the participants against possible risk, the participants will be informed of their right to anonymity. Participants will be invited to choose a pseudonym for themselves. These pseudonyms will replace the real names of the participants in the thesis and any associated publications. All of the information and materials produced in the course of this research will be treated in a manner that respects the privacy rights of the participants.

When digital recording is used, if the recordings are not transcribed by the researcher the person doing the transcribing will be asked to sign a confidentiality agreement.

Participants will also member check their transcripts and be able to suggest areas for possible omission and/or amendment.

d) **Potential harm to participants**

At the information session all participants will be asked to submit an expression of interest indicating their acceptance or decline of the invitation to be involved. This will eliminate any potential harm to potential participants who decide not to be involved from the start.

Participants are encouraged to be open and to express all their thoughts, positive and negative. All of their input is valued and confidential. If a participant makes a negative comment it will not be shared with the management and employees of [REDACTED] or [REDACTED].

If at any stage during the research project participants have concerns that the researcher does not address they will be asked to contact the researcher's supervisors whose contact details will be on the information sheet.

e) **Participants' right to decline to participate and right to withdraw**

All parents, families and staff of the early childhood education setting will be invited to participate in the research project by letter. There will be no expectation that they participate and they are therefore able to decline involvement. Participants have the right to withdraw from the study up until the end of the data collection phase, being the 30th June 2014. Throughout the project they will have the opportunity to amend or withdraw any information they have provided through access to the transcribed interviews.

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The analysis will be on-going, so once the participants have given approval for the data to be used this data will become part of the project, even if they later withdraw. To withdraw participants will be asked to discuss this with the researcher, and then put their withdrawal in writing.

i) *Indicate what activities you require participants to do in your study*

All participants will be required to undertake an initial survey, either online or in a paper-based format, whichever they prefer. They will also be required to undertake a final survey near the conclusion of the data collection phase. The participants selected for the six case studies will participate in two semi-structured interviews, one initial and one final. The early childhood education setting teaching staff will be required to complete ePortfolio training. This will be provided by the ePortfolio provider. All participants will be required to complete a small mid-way survey within two – three months after the implementation of ePortfolios; this will again be available both online and in a paper-based format.

ii) Indicate how much participants' time will be required

The surveys will be carried out in the participants own time and should take no longer than 15 minutes to complete (appendix C). Participants will have two weeks from receiving the survey links or paper-based copy to complete the surveys. Therefore the expected time required of the participants who complete the surveys will be no more than 30 minutes.

It is expected that the individual unstructured interviews (initial and final) will take between half to one hour in the case of the adult participants. The interviews with the children will take no longer than fifteen minutes. In regards to the adult participants who are part of the case studies the estimated time that they will be required to give to the study would be no longer than two hours. For the children it will be no longer that half an hour.

The ePortfolio training will up to four hours in length and will be held in either the weekend or an evening which is acceptable to the participants (staff) and their employer. The time that staff are required to complete the assessment tasks for the portfolios will be not more than what is expected of them by their employer.

f) **Arrangements for participants to receive information**
Participants will receive information outlining the study prior to volunteering to participate. This will be in the form of the researcher providing the potential participants with a letter. An information morning will also be offered for parents and whānau. This will be held at the centre and will be a drop in session for those who are wanting further information. The researcher will present the research to the early childhood setting staff during a regularly scheduled staff meeting. Further information regarding the surveys and questionnaire will be sent via email, or given out in a paper-based format if necessary. Email and/or paper-based notices, on a needs basis, will also be used as a tool for sharing information with the participants

An electronic copy of the thesis will become widely available, as PhD Theses are required to be lodged in the University of Waikato Research Commons.

g) **Use of the information**
The information gained from this research will be used in the following ways:

- Completion of PhD Thesis;
- Inform the researcher's own work;
- Presentations at Conferences;
- Workshops;
- Journal articles in relevant academic publications.

h) **Conflicts of interest**
[   ] has a professional relationship with The Waikato Institute of Technology (Wintec), who is the researcher's employer, as student's undertaking their Bachelor of Teaching (ECE) complete their practicum or teaching experience there. It is not part of the researcher's role to make student placements.   For the duration of the research the researcher will ensure that she is not allocated any students to visit at the centre.

The researcher has previously worked for [   ] (the umbrella organisation for Lintotts) as a Home-based Childcare Co-ordinator. She has not worked at [   ].

As the study focusses on how ePortfolios are used and the engagement of parents, whānau and children with learning, not individual assessments, it will therefore not impact on staff appraisals or reviews. It will also not directly impact on individual children's learning needs. Because of this the researcher does not envisage any conflict of interest between the research and the participants in this study.

i) **Procedure for resolution of disputes**

Participants will be able to contact the researcher's supervisors for assistance in resolving disputes. The supervisors contact details are provided on the information sheet.

j) **Other ethical concerns relevant to the research**
None envisaged.

k) **Cultural and Social considerations**
The researcher will continue to act with sensitivity to any cultural or social issues which arise during the course of the study, as part of her normal practice.   Wintec's School of Education has a Pūkenga Āwhina, Rose Marsters, who provides pastoral care for students and support for staff. She has agreed to support the researcher in relation to any cultural issues which may arise.

3. **Legal Issues**

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a) **Copyright**

The researcher will hold copyright over the thesis report.

b) **Ownership of data or materials produced**

The raw field data supplied by the research participants will belong to the individual participants. The research findings will be used in such a way that it respects the rights of the research participants.

The researcher will own the interpretations of the data and the final thesis.

c) **Any other legal issue relevant to the research**

None anticipated at this stage.

d) **Place in which the research will be conducted**

Interviews will take place at [   ] or at another mutually agreed venue.

Participants will complete the surveys at a venue convenient to them.

e) **Has this application in whole or part previously been declined or approved by another ethics committee?**

No

f) **For research to be undertaken at other facilities under the control of another ethics committee, has an application also been made to that committee?**

No

g) **Is any of this work being used in a thesis to be submitted for a degree at the University of Waikato?**

Yes, as part of Doctoral study.

The information given to participants will state that an electronic copy of the thesis will become widely available, as the University of Waikato requires that a digital copy of Doctoral theses will be lodged permanently in the University's digital repository: Research Commons.

h) **Further conditions**

None

4. **Research Timetable**

a) **Proposed date of commencement of data collection**

1st July 2013

b) **Expected date of completion of data collection**

30th June 2014

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5. Applicant Agreement

I agree

a) to ensure that the above-mentioned procedures concerning the ethical conduct of this project will be followed by all those involved in the collection and handling of data.

b) in the event of this application being approved, the researcher agrees to inform the FOE Ethics Committee of any change subsequently proposed.

c) to submit for approval any amendments made to the research procedures outlined in this application which affect the ethical appraisal of the project.

Signature of applicant: .... Date: ....

d) that this application has been developed with my supervision and has my support. I have checked that all the information requested in the checklist below is included

e) I agree to support the student to follow the above mentioned procedures concerning the ethical conduct of this project.

Signature of supervisor: .... Date: ....

Signature of supervisor: .... Date: ....

Signature of supervisor: .... Date: ....

6. Check List

Before sending this form to the FOE Ethics Committee Administrator please ensure that you have completed the following and attached these as appendices:

☐ Letter(s) to: participants, e.g. children, caregivers, principal, BOT, teachers.

☐ Information sheet, introductory letter for each type of participant

☐ Consent form(s) for each type of participant

☐ Questionnaire/survey questions/interview questions

☐ Reference list

☐ *Every page of your ethics application form has been numbered*

Please provide **six signed copies** of your completed application to the Academic Administrator by the following dates in 2013:
4 Feb, 4 March, 1 April, six May, 3 June, 8 July, 5 Aug, 9 Sept, 7 Oct, 4 Nov, 2 Dec.
References

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THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

MEMORANDUM

To:	**Tracey Ann Hooker**
cc:	Professor Margaret Carr
	Dr Nicola Daly
From:	**Associate Professor Linda Mitchell**
	Chairperson, Research Ethics Committee
Date:	5 June 2013
Subject:	Supervised Postgraduate Research – Application for Ethical Approval (EDU060/13)

Thank you for submitting the amendments to your application for ethical approval for the research project:

Adults and children engaging with ePortfolios in an early childhood education setting

I am pleased to advise that your application has received ethical approval.

Please note that researchers are asked to consult with the Faculty's Research Ethics Committee in the first instance if any changes to the approved research design are proposed.

The Committee wishes you all the best with your research.

Linda Mitchell

Associate Professor Linda Mitchell
Chairperson
Research Ethics Committee

Appendix Two – Addition to ethics application and approval

414 Matangi Road
RD4
Hamilton

Associate Professor Linda Mitchell
Chairperson
Research Ethics Committee
Faculty of Education
The University of Waikato
Private Bag 3105
Hamilton

1st July 2013

Kia ora Linda,

RE: Ethics application EDE606/13

I am writing in regards to the above ethics application which was approved in June. Further to the proposal I would also like to include observations as a form of data collection. I would like to take a number of observations of children, parents/whānau and teachers engaging with their portfolios (both paper based and online). By observing the children, parents/whānau and teachers actually working with, and perhaps contributing to, the portfolios 'live' data will be able to be collected from a situation which is not unnatural to them. These observations will be recorded as both running records and anecdotal observations.

I have updated the consent form accordingly (attached) to include observations as a data collection method.

I hope that this addition meets with the committees approval and I look forward to receiving your response.

Kind regards,
Na,

Tracey Hooker
PhD Student
Email: bthooker@wintec.ac.nz

CONSENT FORM FOR PARTICPATION

Adults and children engaging with ePortfolios in an early childhood education setting

I (*please print your name*) _____ have read all the   information and fully understand what it means to be involved in this research project.

- I understand that my participation in this research project is voluntary and I may withdraw, totally, or partially, at any time.

- I accept that my participation will have minimal impact on my time and that confidentiality will be safeguarded.

- I understand that I will be required to participate in three surveys.

- I understand that if I am part of the individual case studies that I will also be required to participate in two interviews. If my child is verbally able I also consent to them being interviewed, if applicable. Accordingly I agree to have my interviews digitally recorded.

- I understand that observations of children and adults interacting with portfolios will be undertaken and give consent for myself and/or my child to be observed by the researcher.

- I give permission for the researcher to have access to my child's documentation portfolios.

- I accept that information generated during this project will belong to Tracey Hooker as researcher, and will be retained securely and anonymously after the research is completed and archived for 5 years as per the *University of Waikato Ethical Conduct in Human Research and Related Activities Regulations 2008*.

- Accordingly, I am willing to participate in this research project .

Signed _____   Date _____

I wish to complete the surveys (please tick):

☐   **In paper format**

☐   **By accessing it online. Please provide your email address:** _____

Dear Tracey

This looks fine and I will executively approve it so you don't need to wait for a meeting. Yes we need a hard copy for the file when you are ready and can you check the information sheet – it may also need to refer to observations.

Sorry for the delay in replying.

Cheers, Linda

Dr Linda Mitchell
Associate Professor
Faculty of Education
The University of Waikato
Private Bag 3105
Hamilton

Phone: +64 7 838 4466 Ext 7734

From: Tracey Hooker [mailto:Tracey.Hooker@wintec.ac.nz]

Appendix Three – Letter of invitation

Professional Studies in Education
Faculty of Education
Te kura toi Tangata
The University of Waikato
Private Bag 3105
Hamilton, New Zealand

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Kia ora,

My name is Tracey Hooker and this year I am beginning a research study for my PhD Thesis. I am excited to be embarking on this research as I believe the content of the study will be relevant and of interest to early childhood education professionals, parents, families and whānau.

The research project is entitled *Adults and children engaging with ePortfolios in an early childhood education setting.* In this project I intend to focus on comparing traditional paper based portfolios with online ePortfolios to discover how adults (parents, whānau and teachers) and children engage with and use both forms of assessment documentation.

This research aims to explore (i) the extent to which children, parents and whānau in an early childhood education context contribute to learning at the centre and (ii) to identify if there are any changes to teacher's formative assessment practices with the introduction of an ePortfolio system for documenting children's assessment for learning.

I am thrilled to be finally at the point where I am able to carry out this research and hope that you will share my enthusiasm. Please return the enclosed expression of interest slip indicating if you would like to accept or decline the invitation to take part in this study. Returning the slip does not commit you to being a participant. If you have any further questions please do not hesitate to give me a call.

Warm regards,
Na,

Tracey Hooker
PhD Student
Faculty of Education
University of Waikato
Phone: (07) 8295944
Email: bthooker@xtra.co.nz

Other contacts:
Research Supervisors
Chief Supervisor
Associate Professor Linda Mitchell: 8384466 ext. 7736 lindamit@waikato.ac.nz
Second Supervisor:
Associate Professor Sally Peters: 8384466 ext. 8386 speters@waikato.ac.nz

IMPORTANT INFORMATION

- Your participation in this research is voluntary;
- The information that is collected will only be used for the purpose of the research study;
- Participants will be given a pseudonym (different name) to protect their anonymity in publications resulting from this research;
- Participants will be interviewed and will be able to read their transcripts enabling them to amend or withdraw any information collected;
- Extracts from the data (using pseudonyms) will be used in the thesis and associated publications such as conference proceedings, journal articles and lectures;
- An electronic copy of the thesis will become widely available, as Doctoral Theses are lodged in the University of Waikato's Research Commons;
- Data with pseudonyms will be stored securely for five years after completion of the project then destroyed;
- You can withdraw from the study at any time up until the completion of the data collection phase, being the 30th June 2014. However, any interview transcripts already seen and amended by you will be used before you withdraw will still be used as data.
- You can ask further questions at any time.

If you have any concerns about the study that cannot be answered by the researcher please one of the following research supervisors:

Chief Supervisor
Associate Professor Linda Mitchell: 8384466 ext. 7736 lindamit@waikato.ac.nz
Second Supervisor
Associate Professor Sally Peters: 8384466 ext. 8386 speters@waikato.ac.nz

✂--

EXPRESSION OF INTEREST TO PARTICIPATE IN THE RESEARCH STUDY:

Adults and children engaging with ePortfolios in an early childhood education setting

I _____ am interested in being a participant in the above study and would like to received further information.

Signed: _____ Date: _____

Please detach and return to Lintott Community Childcare Centre.

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Appendix Four – Consent form

Professional Studies in Education
Faculty of Education
Te kura toi Tangata
The University of Waikato
Private Bag 3105
Hamilton, New Zealand

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

CONSENT FORM FOR PARTICPATION

Adults and children engaging with ePortfolios in an early childhood education setting

I (*please print your name*) _____ have read all the information and fully understand what it means to be involved in this research project.

- I understand that my participation in this research project is voluntary and I may withdraw, totally, or partially, at any time.

- I accept that my participation will have minimal impact on my time and that confidentiality will be safeguarded.

- I understand that I will be required to participate in three surveys.

- I understand that if I am part of the individual case studies that I will also be required to participate in two interviews. If my child is verbally able I also consent to them being interviewed, if applicable. Accordingly I agree to have my interviews digitally recorded.

- I understand that observations of children and adults interacting with portfolios will be undertaken and give consent for myself and/or my child to be observed by the researcher.

- I give permission for the researcher to have access to my child's documentation portfolios.

- I accept that information generated during this project will belong to Tracey Hooker as researcher, and will be retained securely and anonymously after the research is completed and archived for 5 years as per the *University of Waikato Ethical Conduct in Human Research and Related Activities Regulations 2008*.

- Accordingly, I am willing to participate in this research project .

Signed _____   Date _____

I wish to complete the survey (please tick):

☐ **In paper format**

☐ **By accessing it online. Please provide your email address:** _____

Appendix Five – Letter for Case study participants

Professional Studies in Education
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www.waikato.ac.nz

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

15 July 2013

Kia ora,

Thank you for your willingness to be part of my PhD research:

Adults and children engaging with ePortfolios in an early childhood education setting.

Your child meets the criteria for being part of the nested case studies. This will involve you participating in two interviews (one at the start of the research period, July 2013, and one at the end, June 2014) as per the consent form that you have returned. The interviews will take approximately half an hour.

I am hoping to conduct these interviews over the next week (16 July – 23 July). I will be available at ▢ on Wednesday, Thursday and Friday this week if this suits you, otherwise please let me know a day, time and venue that is convenient for you, I am happy to travel to you.

Thank you once again for your support of this important research project and I look forward to hearing from you.

Warm regards,
Na,

Tracey Hooker
Med (Hons), PGDipEd, BEd, DipT(ECE)
bthooker@wintec.ac.nz
0274295945

Appendix Six – Photo and Introduction

Professional Studies in Education
Faculty of Education
Te kura toi Tangata
The University of Waikato
Private Bag 3105
Hamilton, New Zealand

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Kia ora,

My name is Tracey Hooker and I am a PhD student from the University of Waikato.

During 2013 and 2014 I will be undertaking research here at ☐☐☐☐☐
☐☐☐☐☐☐☐☐☐☐

I look forward to getting to know you and your children.

If you have any questions please feel free to ask.

Tracey Hooker

MEd (Hons), PGDipEd, BEd, DipT (ECE)

Email: bthooker@xtra.co.nz

Appendix Seven – Letter re Midway Survey

Professional Studies in Education
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Phone +64 7 858 5171
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THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

13 December 2013

Kia ora,

Adults and children engaging with ePortfolios in an early childhood education setting

This letter is to advise you that the survey planned for December will now be sent out late January/early February. I believe that due to the busyness of this time of year that the response rate will be much better in the New Year.

I wish you all a very merry Christmas and relaxing summer.

Warm regards,
Na,

Tracey Hooker
PhD Candidate
MEd (Hons), PGDipEd, BEd, DipT(ECE)
bthooker@xtra.co.nz
0274295945

Appendix Eight - Surveys

Initial Survey – parents and whānau

Portfolios - initial parent and whanau survey

Thank you for taking the time to complete this survey. The purpose of the survey is to discover how you engage with and use your child's portfolio. Your responses are anonymous.

1. Do you know where your child's portfolio is located at [_____]?

☐ Yes

☐ No

2. How often do you access your child's portfolio?

☐ Daily

☐ Weekly

☐ Monthy

Other (please specify)
[_____]

3. How often does your child's portfolio come home?

☐ Daily

☐ Weekly

☐ Monthly

Other (please specify)
[_____]

4. Can you tell us about how you use the portfolio at home?
[_____]

5. Who do you share your child's portfolio with?
[_____]

6. In what ways do you contribute to your child's portfolio?
[_____]

7. If you don't contribute to your child's portfolio can you tell us why not?
[_____]

8. What do you like best about your child's portfolio?
[_____]

Portfolios - initial parent and whanau survey

9. What do you like least about your child's portfolio?

10. Is there anything else you would like to see included in your child's portfolio?

11. How do you think that children learn?

12. In what ways do you contribute to your children's learning?

Portfolios - initial parent and whanau survey

Now a bit about you

13. How long have you been using [   ] **as your childcare provider?**

[   ]

14. How many children do you currently have attending?

☐ 1

☐ 2

☐ 3

☐ 4

Other (please specify)

[   ]

15. Have you had children attend who have now left and gone to kindergarten or school?

☐ Yes

☐ No

16. What are the ages of your child/ren?

[   ]

17. What is your occupation?

[   ]

18. Please choose a pseudonym (false name). This is so your responses can be matched to subsequent surveys.

[   ]

Initial Survey – Teachers

The purpose of this survey is to discover how you engage with and use the portfolio system currently used at ▭s. Thank you for taking the time to answer this survey, your responses are most appreciated.

1. Do you regularly contribute to the children's portfolios?

- ○ Yes
- ○ No

2. Is this an expectation of your job?

- ○ Yes
- ○ No

3. Are you responsible for a certain number of portfolios? If so how many?

4. If you answered yes to the previous question what does this entail?

5. Do you contribute to portfolios of children other than those you are responsible for?

- ○ Yes
- ○ No

6. How often are you required to contribute to children's portfolios?

- ○ Weekly
- ○ Fortnightly
- ○ Monthly

Other (please specify)

7. What do you contribute to the portfolios?

8. Do you refer to the children's portfolios during the day? If so how often and what for?

9. Do you look at the children's portfolio with the children? If so, how often and what is the purpose of doing this?

10. Do you look at the portfolios with parents and whanau? If so how often and what is the purpose of doing this?

11. How do you feel about contributing to children's portfolios?

12. How valuable do you think portfolis are for:

	Extremely valuable	Somewhat valuable	Little value	Not valuable at all
Children's learning	○	○	○	○
As a teaching tool	○	○	○	○
As an assessment tool	○	○	○	○
Parent and whanau engagement	○	○	○	○
Accountability	○	○	○	○

13. How do you believe that children learn?

14. How do you think that you contribute to children's learning?

15. Do you have any further comments about portfolios that you wish to make?

Now a bit about you

16. How long have you been teaching for?

17. What is your highest qualification?

18. Please choose a pseudonym (false name). This is so that the data collected in each of the surveys can be matched.

Midway Survey – Parents and Whānau

**ePortfolios - midway parent and whanau survey\
**

This survey is to document your engagement with and use of the ePortfolio system to date. It will also ask you to make some comparisons between the two portfolios systems. It should take around 10-15 minutes to complete. Thank you for your time.

1. Have you accessed your child's ePortfolio?

○ Yes

○ No [go to question 5]

2. If yes, how often have you accessed their ePortfolios?

☐ Daily

☐ Weekly

☐ Fortnightly

☐ Monthly

☐ Every two months

☐ Every six months

Other (please specify)

[   ]

3. Where have you accessed the ePortfolios from? (e.g. home, work etc.)

4. How do you use the ePortfolio at home?

5. If no, why not?

6. Which portfolio do you access more often?

○ Paper-based portfolio

○ ePortfolio

○ I access both the same amount

7. How do you use the paper-based portfolio?

ePortfolios - midway parent and whanau survey

8. Is this the same as before the ePortfolios were introduced?

[ ]

9. In the initial survey a number of parents commented that they would read stories from the paper-based portfolio to their child, often before bed. Do you read the stories now in the ePortfolio with your child/children?

○ Yes

○ No [go to question 11]

10. If yes, how do you do this?

[ ]

11. If no, why not?

[ ]

12. Have you contributed to your child's ePortfolio?

☐ Yes

☐ No [go to question 15]

13. If yes, about how often? (tick the one which most applies)

☐ Daily

☐ Weekly

☐ Fortnightly

☐ Monthly

☐ Every two months

☐ Six monthly

Other (please specify)

[ ]

14. What have you contributed to the ePortfolio?

[ ]

15. If no, why not?

[ ]

16. Has anyone else in your whanau or circle of friends accessed your child's ePortfolio? Who?

17. Have they contributed anything? If so what have they contributed?

18. Have you and your child viewed their ePortfolio together?

☐ Yes

☐ No [go to question 21]

19. If yes, about how often? (tick the one which most applies)

☐ Daily

☐ Weekly

☐ Fortnightly

☐ Monthly

☐ Every two months

☐ Six monthly

Other (please specify)

20. How do you use the ePortfolio with your child/children?

21. If no, why not?

22. Have you viewed your child's ePortfolio with a teacher?

☐ Yes

☐ No [go to question 25]

23. If yes, how often?

☐ Daily

☐ Weekly

☐ Fortnightly

☐ Monthly

☐ Every two months

☐ Six monthly

Other (please specify)

[   ]

24. What has been the purpose of looking at the ePortfolio with a teacher?

[   ]

25. If no, why do you think this is?

[   ]

26. Are you still accessing the paper based portfolio?

○ Yes

○ No [go to question 28]

27. If yes, in what ways?

[   ]

28. If no, why not?

[   ]

29. Has the way you contribute to the paper-based portfolio changed since the introduction of the ePortfolio? If so, how?

[   ]

30. Please describe any differences in the ways your child interacts with the paper-based portfolio and e-portfolio.

[   ]

ePortfolios - midway parent and whanau survey

31. Do you have anything else you would like to add?

32. Please enter your pseudonym (false name) below

Midway Survey - Teachers

ePortfolios - midway teachers survey

This survey has two purposes. Firstly there will be some questions relating to the previous survey you completed. Secondly it will document your engagement with and use of the ePortfolio system to date. It should take approximately 10 minutes to complete. Thank you for your time.

1. In the initial survey a number of teachers commented that the paper-based portfolios are useful for 'revisiting learning' with children. Can you explain what is meant by this?

2. How is the information gained from 'revisiting children's learning' used?

3. Another common theme was that the portfolios were useful for capturing 'magic moments' or 'learning moments' and 'teachable moments'. Can you explain what is meant by these terms?

ePortfolios - midway teachers survey

ePortfolios

The following questions relate to the ePortfolio system that has been in place over the last 6 months.

4. Have you accessed the ePortfolio system?

○ Yes

○ No [go to question 6]

5. If yes, how many ePortfolios have you contributed to and what have you contributed?

6. If no, why not?

7. Have you shared the ePortfolio with children?

☐ Yes

☐ No [go to question 10]

8. If yes, about how often? (tick the one which most applies)

☐ Daily

☐ Weekly

☐ Fortnightly

☐ Monthly

Other (please specify)

9. In what ways do you use the ePortfolio with the children?

10. If no, why not?

11. Have you shared or discussed the children's ePortfolios with parents and/or whanau?

☐ Yes

☐ No [go to question 17]

12. Who specifically have you shared the ePortfolio with? (tick all that apply)

- ☐ Mother
- ☐ Father
- ☐ Grandparent
- ☐ Aunt/Uncle
- ☐ Sister/Brother
- ☐ Family Friend

Other (please specify)

[   ]

13. If yes, about how often? (tick the one which most applies)

- ☐ Daily
- ☐ Weekly
- ☐ Fortnightly
- ☐ Monthly

Other (please specify)

[   ]

14. If yes, what have you shared with parents/whanau?

[   ]

15. Have you done this in a face to face conversation or through comments added to the ePortfolio?

- ○ Face to face conversation
- ○ Comments on ePortfolio
- ○ Both

16. How often would you do this?

[   ]

17. If no, why not?

[   ]

18. From your experiences with ePortfolios so far how valuable do you think they are for:

	Extremely valuable	Somewhat valuable	Little value	Not valuable at all
Children's learning	○	○	○	○
As a teaching tool	○	○	○	○
As an assessment tool	○	○	○	○
Parent and/or whanau engagement	○	○	○	○
Accountability	○	○	○	○

19. Are you still accessing the paper based portfolios?

☐ Yes

☐ No [go to question 21]

20. If yes, how are you using the paper based portfolios?

21. If no, why not?

22. Have you noticed any differences in the way the children are interacting with the portfolios (both online and paper based)?

23. Please enter your pseudonym (flase name) below

Final Survey – Parents and Whānau

ePortfolios - final parent and whanau survey

This is the final survey for the research study "Adults and children engaging with ePortfolios in an early childhood education setting". I would like to take this opportunity to thank you for your participation over the last year.

1. If you had to choose between the paper-based portfolio system and the ePortfolio system which would you choose?

○ Paper-based

○ ePortfolio

2. Why would you choose that particular portfolio system?

3. What do you see as the positives of a paper-based portfolio system?

4. What do you see as the negatives of a paper-based portfolio system?

5. What do you see as the positives of an ePortfolio system?

6. What do you see as the negatives of an ePortfolio system?

7. Do you ever engage with the ePortfolio with your child/children while at the centre?

○ Yes [go to question 8]

○ No [go to question 10]

8. What do you use to do this?

☐ IPad/tablet

☐ Mobile Phone

☐ Computer

Other (please specify)

ePortfolios - final parent and whanau survey

9. Why do you do this?

10. Why not?

11. In your opinion what impact have ePortfolios had so far on your child's learning?

12. Do you think there has been any change in the way the teachers provide information and learning stories since the introduction of ePortfolios?

- ○ Yes [go to question 13]
- ○ No [go to question 14]

13. What has changed?

14. Why don't you think there has been a change?

15. In the midway survey several parents indicated that they or a member of their family had contributed to their child's ePortfolio. What do you think the benefits of such contributions are (whether you have made them or not)?

16. In the last survey a number of parents indicated that they do not look at the ePortfolios with their children, why do you think this is?

17. Do you look at your child's ePortfolio with them?

- ○ Yes [go to question 18]
- ○ No [go to question 18]

18. Do you add comments to your child's ePortfolio?

○ Yes [go to question 19]

○ No [go to question 21]

19. Who are the comments for?

☐ My child

☐ Teachers

Other (please specify)

[ ]

20. Who looks at your comments with your child?

☐ I do

☐ The teachers

Other (please specify)

[ ]

21. Why don't you add comments?

[ ]

22. Are you still looking at the paper-based portfolio with your child/children?

○ Yes [go to question 23]

○ No [go to question 24]

23. Who initiates this?

☐ I do

☐ My child/children

☐ Teachers

Other (please specify)

[ ]

24. If you don't look at the ePortfolio with your child/children but are still looking at the paper-based portfolio with them, why do you choose not to use the ePortfolio?

[ ]

25. In the midway survey most teachers indicated that they regularly share children's ePortfolios with parents/whanau. However in the parent/whanau survey the majority of respondents said that teachers had not shared the ePortfolios with them. What do you think 'sharing' is?

26. What advice do you have for [   ] in regards to children's portfolios (both paper-based and ePortfolio)?

27. Are there any other comments which you think will be valuable for this research project that you would like to make?

Final Survey – Teachers

ePortfolios - final teachers survey

This is the final survey for the research study "Adults and children engaging with ePortfolios in an early childhood education setting". I would like to take this opportunity to thank you for your participation over the last year.

1. If you had to choose between the paper-based portfolio system and the ePortfolio system which would you choose?

○ Paper-based

○ ePortfolio

2. Why would you choose that particular portfolio system?

3. What do you see as the positives of a paper-based system?

4. What do you see as the negatives of a paper-based system?

5. What do you see as the positives of an ePortfolio system?

6. What do you see as the negatives of an ePortfolio system?

7. In the midway survey several teachers stated that they regularly shared the ePortfolio with children's parents and whanau. What do you specifically share?

8. How do you do this?

9. How often you do this?

☐ Daily

☐ Weekly

☐ Monthly

Other (please specify)

10. Would this be the same for all families?

○ Yes [go to question 11]

○ No [go to question 12]

11. Why?

12. Why not?

13. If you are a key teacher which of your families have you shared the ePortfolio with?

○ All

○ Most

○ About half

○ Some

○ None

14. In the midway parent/whanau survey the majority of respondents said that teachers had not shared the ePortfolios with them, why do you think this is?

15. What is your definition of 'sharing' (in regards to the ePortfolios)?

16. Do you think the introduction of ePortfolios has changed the way your formative assessment of the children's learning?

○ Yes [go to question 17]

○ No [go to question 18]

17. In what ways do you believe your formative assessment practices have changed?

[text box]

18. Why don't you think your formative assessment practices have changed?

[text box]

19. Has what you contribute to the ePortfolio changed from what you used to contribute to the paper-based portfolio?

○ Yes [go to question 20]

○ No [go to question 21]

20. What has changed?

[text box]

21. Why don't you think your contributions have changed?

[text box]

22. Has the frequency of your contributions changed?

[text box]

23. Thinking about your experiences with ePortfolios over the last year. How valuable do you think they are for:

	Extremely valuable	Somewhat valuable	Little value	Not valuable at all
Children's learning	○	○	○	○
As a teaching tool	○	○	○	○
As an assessment tool	○	○	○	○
Parent and/or whanau engagement	○	○	○	○
Accountability (ERO etc.)	○	○	○	○

24. In your opinion what impact has the introduction of ePortfolios had on the children's learning?

[text box]

25. Do you engage with the ePortfolio during the day at the centre?

○ Yes [go to question 26]

○ No [go to question 28]

26. What do you use to do this?

☐ IPad/Tablet

☐ Mobile phone

☐ Computer

Other (please specify)

27. Why do you do this?

28. Why not?

29. In your opinion what impact have ePortfolios had so far on parent/whanau engagement with their children's learning?

30. Do you think that ePortfolios will be more or less effective for transition to school than the paper-based portfolios?

○ More effective

○ Less effective

31. Why do you think that?

32. In regards to the format of the ePortfolio system you are using (Educa) is there anything you would change or add?

33. Are there any other comments which you think will be valuable for this research project that you would like to make?

34. Below are a list of pseudonyms provided in the last two surveys, please indicate yours (select all that apply).

☐ Hunny

☐ Gracie

☐ Lucy

☐ Emily

☐ Leanbe

☐ Barbara

☐ Claire

☐ Richard Castle

☐ Renee

☐ Delta Goodrem

☐ Eleanor

☐ Heskie

☐ Lily-Rose

☐ Meg

35. If you are new and have not completed a survey previously, or if none of the above names relate to previous responses, please provide a pseudonym (false name) here:

Appendix Nine – Draft Interview Questions (semi-structured interviews)

Initial Interview - parents and whānau

Parents/Whānau

Can you tell me what you like most about your child's portfolio?

Can you tell me what you like the least about your child's portfolio?

Are you able to take time to look at the portfolio with your child? Can you explain why/why not?

Where would you normally do this?

Could anything be done to enable you to spend more time with the portfolio?

Who else do you share your child's portfolio with?

Do you or anyone else in your family contribute to your child's portfolio? What do you (or members of your family) contribute?

Can you show me your favourite assessment in your child's portfolio? Why is it your favourite? Which one does your child like best?

How do you believe children learn?

Do you thing the portfolio aids in your children's learning?

Initial Interview – teachers

<u>Teachers</u>

How do you feel about contributing to children's portfolios?

What value do you see in portfolios?

How often do you contribute to portfolios? What do you contribute?

Do you feel that you have enough time to contribute what you would like to to the portfolios? Why/why not?

Do you revisit the assessment in the portfolios with children?

How about with their parents/whānau?

How often would you do this?

What value do you see in doing this?

What do you think is the most important function of a portfolio?

How valuable do you think the portfolio is for: Why?

Children's Learning

As a teaching tool

As an assessment tool

Parent and/or whānau engagement

Accountability

How do you think children learn?

Do you think the portfolio aids in children's learning?

Conversations with children

Adults and children engaging with ePortfolios in an early childhood education setting

<u>Interview Questions – Initial Interviews</u>

<u>Children</u>

What's the best thing about your portfolio?

Who looks at your portfolio with you?

What do you like to use your portfolio for?

Where do you like to look at your portfolio?

Can you show me your favourite story? Why is it your favourite?

Would you like to put anything else into your portfolio?

Do you learn when you are at [_____]?

How?

Does your portfolio help with your learning?

Final Interview – parent and whānau

Final Interview Questions - Generic

1. In the initial interview you said that you liked the paper-based portfolios because they [insert specific comment from initial interview]. How do you feel that the ePortfolios do this?

2. When thinking about what you didn't like about the paper-based portfolios you mentioned that [insert specific comment from initial interview]. Do you find that this is still the same for the ePortfolios?

3. In regards to the paper-based portfolio you mentioned that you only looked [insert specific comment from initial interview]. Is there any difference with the ways you use the ePortfolios with [child's name]?

4. You mentioned that you [insert specific comment from initial interview]. at [   ] has this changed at all with the introduction of the ePortfolio?

5. In the initial interview you stated that you shared the paper-based portfolios [insert specific comment from initial interview], how are the ePortfolios shared now?

6. Is there any change to the way your family members interact with or engage with the ePortfolios compared with how they engaged with the paper-based portfolios?

7. Who have you shared the ePortfolios with?

8. Have they contributed to the ePortfolio?

9. If no – why do you think this is?/ If yes – what have they contributed? How often do they contribute.

10. How about you – do you contribute?

11. In the initial interview you said that you didn't think that the paper-based portfolio was [insert specific comment from initial interview]. How do you think the ePortfolio compares?

12. In the initial interview we talked about the benefits you could see about the paper-based portfolio going to school with [child's name]. Would you consider sharing the ePortfolio with his new entrant teacher either prior to him starting school or when he started?

13. How do you feel about ePortfolios now that they have been in use for a year at [____]?

14. What about the paper-based portfolios?

15. Which would you prefer and why?

16. When the midway survey asked the question "have the teachers shared the ePortfolio with you" most parents stated that they hadn't, however the teachers felt that they had. What is your understanding of "sharing the ePortfolio?"

17. In the midway survey a number of parents indicated that they do not look at the ePortfolio with their children, do you?

18. If no – why not? / If yes – why and when?

19. How do you access the ePortfolio and where do you do this?

20. Do you think there has been a change in the way the teachers write the learning stories in the ePortfolio compared to how they were written for the paper-based portfolio?

21. If yes, what has changed?

22. Do you have any advice for [____] about assessment portfolios?

23. Do you have any further comments?

Final Interview – teachers

Final Interview Questions – Generic

1. In the initial interview I asked you about how you felt about contributing to the paper-based portfolio and you said that you felt [insert comment form initial interview]. Has this changed with the introduction of the ePortfolio system?

2. You noted that you valued the paper-based portfolios because you believed [insert comment form initial interview]. Is this the same for the ePortfolios?

3. Would you say that either was easier to use for planning? Why?

4. In the initial interview you said that you contributed to the paper-based portfolios [insert comment form initial interview]. Has this changed at all with the ePortfolios?

5. You also noted that you contribute [insert comment form initial interview]. Is this the same for the ePortfolios?

6. In the initial issue you noted that [insert comment form initial interview]. How about on the online system?

7. Has the way you use the paper-based portfolio changed?

8. You mentioned that when you write a story you will sometimes share this with the parents/whanau; do you still do this with the ePortfolio?

9. When the midway survey asked the question "have the teachers shared the ePortfolio with you" most parents stated that they hadn't, however the teachers felt that they had. What is your understanding of "sharing the ePortfolio?"

10. Last time we talked I asked you what you thought the most important function of a portfolio was. You thought [insert comment form initial interview]. Is this still the same for the ePortfolios? Why/why not?

11. Do you use the ePortfolio in the same way that you use the paper-based portfolio?

12. Do you think there has been a change in the way the teachers write the learning stories in the ePortfolio compared to how they were written for the paper-based portfolio?

13. If yes, what has changed?

14. Have you noticed a change in the way parents/whanau engage with their children's learning since the introduction of the ePortfolios?

15. If yes, what has changed?

16. If no, why do you think there has been no change?

17. If you had to choose between a paper-based portfolio system and an ePortfolio system which would you choose?

18. Why?

19. Do you think the ePortfolio system makes it easier for you to record children's assessment or harder?

20. Why?

21. Do you ever contribute to the ePortfolio system away from ▭?

22. Do you use the ePortfolio system during the day to write stories while you are on the floor?

23. If yes, what do you use to do this?

24. Do you feel that you have enough time to contribute to this system as much as you would like?

25. Do you have any advice for Educa about assessment portfolios?

26. Do you have any further comments?

Final Interview – ECE setting supervisor

Final Interview Questions – Supervisor

1. How have you found the ePortfolio journey over the last year?

2. Do you think the ePortfolio system makes it easier for you to record children's assessment or harder?

3. Why?

4. Would you say that either was easier to use for planning? Why?

5. Do you use the ePortfolio in the same way that you use the paper-based portfolio?

6. Do you use the ePortfolios to revisit the learning stories with children? How about on the paper-based portfolios?

7. Has the way you use the paper-based portfolio changed?

8. In regards to sharing a story or something in the portfolios with parents/whanau did you do this with the paper-based portfolios? Do you still do this with the ePortfolio?

9. When the midway survey asked the question "have the teachers shared the ePortfolio with you" most parents stated that they hadn't, however the teachers felt that they had. What is your understanding of "sharing the ePortfolio?"

10. What do you think the most important function of an ePortfolio is?

11. What about a paper-based portfolio?

12. Do you think there has been a change in the way the teachers write the learning stories in the ePortfolio compared to how they were written for the paper-based portfolio?

13. If yes, what has changed? If no, why not?

14. Have you noticed a change in the way parents/whanau engage with their children's learning since the introduction of the ePortfolios?

15. If yes, what has changed?

16. If no, why do you think there has been no change?

17. If you had to choose between a paper-based portfolio system and an ePortfolio system which would you choose?

18. Why?

19. I have noticed that some teachers have their own devices but are not allowed to connect to the internet, why is this?

20. What are your thoughts on having ipads/tablets available for children's use all the time?

21. You mentioned that the other centre, [   ], is now using Educa too. What has their journey been like?

22. Do you have any advice for Educa about assessment portfolios?

23. Do you have any further comments?

Final Interview – ECE setting Management

Adults and children engaging with ePortfolios in an early childhood setting

Interview questions for ⬚ Management

Thank you for agreeing to answer these questions for the above PhD research study.

1. Please describe the journey to ePortfolios over the last year.

2. What do you think the benefits of an online ePortfolio are from a management perspective?

3. Do you think there are any negatives of an online ePortfolio? If yes, can you identify them.

4. Do you think there are any benefits of a paper-based portfolio that can't be captured in an ePortfolio?

5. Do you think there are any benefits of an ePortfolio that can't be captured in paper-based portfolio?

6. Do you think it is important for parents to be engaged in their young children's learning? Why/why not?

7. Which form of portfolio (paper or online) do you think is better for parent engagement? Why?

8. Do you think parents and whanau have become more engaged in their children's learning through the ePortfolio system?

9. Do you think that teachers formative assessment practices have changed?

10. Is there anything else you would like to add?

Final Interview – ePortfolio provider

Adults and children engaging with ePortfolios in an early childhood setting

Interview questions for Nathan Li

Thank you for agreeing to answer these questions for the above PhD research study.

1. Please tell me about your background

2. What made you decide to start Educa?

3. What is the philosophy behind Educa?

4. What do you think the benefits of an online ePortfolio are?

5. Do you think there are any negatives of an online ePortfolio? If yes, can you identify them.

6. Have you ever experienced a paper-based portfolio for your children?

7. Do you think there are any benefits of a paper-based portfolio that can't be captured in an ePortfolio?

8. Do you think there are any benefits of an ePortfolio that can't be captured in paper-based portfolio?

9. Do you think it is important for parents to be engaged in their young children's learning? Why/why not?

10. Which form of portfolio (paper or online) do you think is better for parent engagement? Why?

11. Can you share any of the feedback you have had about Educa from ECE settings who are using the product?

12. Is there anything else you would like to add?

Appendix Ten – Learning story examples

Lila's paper-based portfolio

⬜⬜⬜⬜⬜ boots came off!

Child: ⬜⬜⬜   Date: 22 September 2011   Teacher: ⬜⬜

This morning there was a piece of sprouting in the sandpit with a slow trickle of water running down it from the hose. At the bottom of the sprouting was a puddle of water. I watched as ⬜⬜ and ⬜⬜ discovered the water and started jumping in it. ⬜⬜ decided to take her boots off, and I watched as ⬜⬜ watched ⬜⬜, then tried to take her own boots off. ⬜⬜ had some difficulty with her socks, so ⬜⬜ helped out, pulling so hard she ended up on her bottom with the sock in hand. Both girls then explored what the water felt like in their bare feet.

What learning is happening here?

There is nothing like the feeling of sand and water between your toes. I think ⬜⬜ and ⬜⬜ know this too! I have noticed ⬜⬜ and ⬜⬜ blossoming friendship. Recently ⬜⬜ came to say goodbye to ⬜⬜ at the end of the day. Today ⬜⬜ knew ⬜⬜ well enough to know that she needed her help and ⬜⬜ was more than happy to receive it.

April 2012.

▓▓▓▓ ,I noticed how you were eager to participate in the roller painting.

You are comfortable with trying new things - especially when it allows you to be creative and expressive through art media.

You looked relaxed, but absorbed as you explored how to use the rollers. We talked about the colours you were using - I noticed you know the names of many colours. You express your feelings of delight through your words and body language - a big smile of pleasure! Let's paint again soon.
       - from ▓▓▓▓

Kia ora

Child: [   ]   Date: May 2012   Teacher: [   ]

This morning I was on the telephone and I heard a gentle knock at the door. I saw [   ] standing there with her mum. As I finished my phone call I could hear that [   ] was upset. When I found [   ] she proudly presented me with these muffins "for my teachers". It is really difficult to have to wait when you have a surprise for someone, and what a wonderful surprise, and a awesome act of kindness.

I suggested to [   ] that we take the muffins into the teachers break room, and we left a note so that all the teachers knew who had made these delicious muffins, [   ] signed the note herself. Thank you [   ]!

What does this mean for [   ]? What a wonderful example of role modelling and imitation. "Research carried out by psychologists Robert Ornstein and Dr David Sobel describe the outcomes of what happens when people help others. It is what they call 'helpers high'. The euphoria they experience when they help others close to themselves translates in a feeling of warmth, a frisson, the feeling you are full of energy but very calm at the same time" Wendy Lee, 2012.

Ralf and Ali's cat book. [redacted]

08/11/2013

By: [redacted]

Ever since we had a conversation about our interests [redacted], the one reoccurring topic has been your pet cat Ralf. After many discussions about Ralf and also my cat Ali, you requested to see pictures of my cat. I went away that night and complied some pictures of Ali and made them into a flip book for you. When I showed you this book, you were ecstatic, giggling at each picture as you flipped the page. You became the expert of this book [redacted] explaining each picture with the story I had told you to your peers.

After pondering this book carefully, you decided; "we should get pictures of Ralfy!" This idea sparkled in your eyes as I asked you how you thought we should do that. That weekend, [redacted] gave you the [redacted] camera to take home so you could practice your photography skills on Ralf. You returned on Monday [redacted], with three beautiful photographs of Ralf, two showing his whole body, and one close up of his fur, to show his unique markings and colour. We discussed for a few days what you wanted to do with the pictures you had taken, and you decided upon making a book out of them to put with my pictures of Ali. [redacted] printed your pictures of Ralf off the computer, enlarging them onto an A4 sheet of paper. When you saw the new size of your photos [redacted], you were excited, clapping your hands and grinning at me. "We could make a bigger, bigger book," you suggested, "and make your photos big, big too!" With this your inner artist took the wheel, sparking ideas of how you wanted to form your big book. Sorting through the card bin, I helped you find 3 pieces of card similar in size. [redacted]i, your creativity blossomed when you got to work, deciding you would use both glue and cellotape to stick the pictures onto the card.

Your creation expanded when I asked if you wanted to add anymore to your work. You decided upon decorating the pages [____], so I gathered glitter, ribbons, crayons and anything else I could get my hands onto in the crafts area. Your tools of choice were the ribbons and glitter, gluing both resources onto the pictures, creating a series of abstract collages out of your own photography.

Once you were finished decorating your pictures [____], you requested to choose three photos of my cat Ali for your book. Remembering back to my pictures I had brought in you inquired; "I want the one of her pretending to be a toilet roll! That's my favourite." I was delighted that you had remembered that picture, and it showed me how engaged you were in my stories and pictures of Ali. The next day I brought in the three photos of your choice, printed in A4 size, for you to work on. You got straight to work with them, but with a different approach this time. [____], you changed your tactic when it came to the cellotape, deciding only to use glue to stick the pictures down. Remembering the activity from yesterday, you didn't wait to begin your abstract art one each picture, before moving onto the next.

I asked you [____], what you wanted to do with the pages of the picture book when you had finished decorating them. Your eyes flickered up to the ceiling in thought ad you replied "stick it together. Get some glue and string so it can open and cover the pictures." Unsure of what you were meaning by the last part I inquired; "What would we cover the pictures with?" You jumped up and grabbed a piece of paper, fitting it neatly over the last picture you decorated. I clicked onto your idea and replied; "Oh do you want to make a cover for the book?" You seemed pleased with me [____] when I understood your plan, nodding and grinning at me. I brought a book from the bookshelf over so you could see what a cover for a book would entail.

You mentioned to me that you would need to draw pictures and write words. We discussed that the cover needed to tell the reader what was inside the book. With this you were on your way, beginning with a picture of Ralf. After this you drew my cat Ali, then wrote their names at the top of the page. Once you had finished the cover I wrote the word 'By' and you wrote your name next to it, showing the reader who had created the book.

After this, we punched holes in the pages, threaded string through the holes and tied the book together. This made the spine for the book and a way to open, close and keep the book together.

I loved watching your creativity blossom during this project. We worked on it for over a week, I could tell that this meant a lot to you because you kept coming back and persisting with it until the very end. I hope you will enjoy reading and sharing this book with your family and friends as much as we enjoyed making it! Amazing work [____]!

What learning do I think is happening here?

As well as building on [____] artistic side, this project also demonstrated her high level of dedication and persistence when working on her creations. She was able to take pictures from her home and mine, collaborate these two elements and produce a personalised, abstract piece of art work. We worked on this project for over a week but this whole topic began 5 weeks ago! [____] was incredibly focused on her creation each time she added to it and I could see her enjoyment beaming out of her. She showed an on-going interest in her project when she asked me to work on them again and would always talk me through what she was doing. I noticed she would hum, smile and giggle during the process. I am pleasently surprised in how focused and persistent [____] was and her hard work was evident through the final product.

Opportunities and possibilities?

[_____] artistic skills are constantly growing and by making this book it showed her dedication and persistence to her creations. I think it would be valuable for [_____] to be involved in another on-going project and give her the opportunities to be constantly progressing and evolving her own ideas and work over time.

Link to Te Whāriki

BELONGING	Children and their families experience an environment where connecting links with the family and the wider world are affirmed and extended.
CONTRIBUTION	Children experience an environment where they are affirmed as individuals.
EXPLORATION	Children experience an environment where they learn strategies for active exploration, thinking, and reasoning.

Whānau Voice / Comments

Parent

14/11/2013

This is such an awesome story you have done such a good job capturing the moments of work and wonder and I love how the photos match the parts of the story. Naomi was so excited to show everyone her book she had worked so hard on.

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Like the Bush Hut

20/03/2014
By: Teacher

[____] today when you arrived to [____] you joined [____] in building this hut. It became a peaceful, kind of secluded place where you and [____] drew and created all morning, with the coloured pencils, paper and scissors. I heard you reflecting with [____] on your own experience of huts "This is like the bush hut" you said. After lunch I shared the story your Mum wrote in your portfolio about the bush hut with you and many other children who joined us. Afterwards you invited [____] to come and look at yours and [____] hut you made.

The idea of huts in nature has become very exciting, I wonder what else we could make a hut out of in our garden and what [____] experience of huts might continue to offer?

Whānau Voice / Comments

20/03/2014

Parent

This is awesome. I could see when I first brought her over she was a bit wary and didn't want to interact but once you included her in the experience by asking her if she wanted to help get some fabric she was keen.
I am ever grateful that she gets these kinds of experiences at [____] as I have worked at a few different centres and have never experienced anything like this. The children's ideas are truly nurtured and there is not a lot of boundaries or restrictions which I love. [____] is truly able to explore things and experience a lot of different activities. [____] is truly a magical and exciting place.

Experimenting with hair styles.

Lately [____], [__] and I have been watching you tube clips of hair styles and braids.

[_____] has grown quite fascinated by plaits and braids especially the "Elsa braid" which id a new Disney movie, Frozen.

Today we tried two new hairstyles.

This afternoon when I came to pick up [_____], [_____] told me that she Is excited to try out the fishtail plait on her daughter.

This is another parent.

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[____] also told me that [__] really liked [_____] plait.
So this afternoon [____] asked if we could watch some more videos as she has been wanting me to try the waterfall braid.
We found a very good video and watched it as we did the braid ourselves.
We were so happy when it turned out.
[_____] asked me to take photos and put them on here so you could all see it.
Especially you [Teacher
She said Mummy maybe [__] would like this one.
So yeah here is the waterfall braid.
Very cute :)

Ethan's paper-based portfolio

[   ], Exploring the world through all your senses!

March-April 2013

While at [   ] you are engaged in a world of sensory delight, pleasure and sometimes uncertainty as you explore new and exciting (sometimes strange) textures and tastes such as gloop, sand, water play and playdough. [   ], you are learning through your whole body and as your brain receives information from your senses it creates thousands of connections in the brain fusing neurons together. I love your strong sense of curiosity, always exploring, investigating and discovering.

I love the way you share your experiences with those around you and how happy you are here to explore so confidently.

Possibilities and opportunities:

We will continue to scaffold your learning through providing you with rich sensory experiences and lots of time and space to investigate using your whole body.

With Love from your friend and teacher [   ] xoxox

learning through schemas

05/09/2013
By:

Looking back on some of your learning stories Teacher has written about your posting, enveloping, enclosing this is a very strong interest for you. What are you learning, and why are you doing it? _____ you have a strong interest in repeating these skills. I noticed it is these schemas that interest you no matter what area you are playing.

Here you found a bag of small boxes and they were filled with paper. You pulled each box out of the bag then looked inside of the small boxes and pulled out the paper and put it back in. I could see you focusing on pulling the paper out and also concentrating as you put the paper back inside of the boxes.

In previous stories you have put yourself inside of boxes and got yourself out, in the sand pit you fill up containers and then tip it out. You have posted shapes and now using the paper to fit inside of the box, another form of posting, enveloping and enclosing, but a lot more complex. as paper changes shape to fit the box.

What learning do I think is happening here?

"Making play make sense.
Schemas draw attention to patterns across childrens play that would not otherwise be obvious or seem to be linked in anyway. Using schema learning theory as a frame work we can notice these patterns in our children play and make some sense of them. When we recognise schema it helps make our childrens learning visible and we can respond in ways that support their exploration." (Getting started with Schemas by Nikolien van Wijk pg 3)

Schemas build cognitive structures, _____ is revisiting the same experience many times and this allows him to deepen his understand of his working theories and his persistence. This process creates deeper, wider and more complex learning that otherwise is not seen.

Opportunities and possibilities?

I will watch with great interest to see where you take these schemas in your learning journey. I will be watching for opportunities and possibilities to build on what you are all ready practicing.

Link to Te Whāriki

WELL-BEING	Children experience an environment where their emotional well-being is nurtured.
WELL-BEING	Children experience an environment where they are kept safe from harm.
BELONGING	Children and their families experience an environment where connecting links with the family and the wider world are affirmed and extended.
BELONGING	Children and their families experience an environment where they know that they have a place.
BELONGING	Children and their families experience an environment where they feel comfortable with the routines, customs, and regular events.
CONTRIBUTION	Children experience an environment where there are equitable opportunities for learning, irrespective of gender, ability, age, ethnicity, or background.
CONTRIBUTION	Children experience an environment where they are affirmed as individuals.
CONTRIBUTION	Children experience an environment where they are encouraged to learn with and alongside others.
COMMUNICATION	Children experience an environment where they develop non-verbal communication skills for a range of purposes.
COMMUNICATION	Children experience an environment where they experience the stories and symbols of their own and other cultures.
COMMUNICATION	Children experience an environment where they discover and develop different ways to be creative and expressive.
EXPLORATION	Children experience an environment where their play is valued as meaningful learning and the importance of spontaneous play is recognised.
EXPLORATION	Children experience an environment where they gain confidence in and control of their bodies.
EXPLORATION	Children experience an environment where they learn strategies for active exploration, thinking, and reasoning.

[____] and [____] learning alongside of each other

I have noticed [____] playing alongside [____]. [____] you are often watching and looking at what [____] is doing.

Today I made some playdough for our table. [____] and I were playing with it when [____] arrived. We were rolling the playdough out and then pushing shapes into it. Neve got involved straight away, she patted out her dough then chose the star shape to press into the dough. You both repeated the process of pressing the dough with your hands and also pressing the cutter shapes into the dough. During this time I talked about what you were doing and encouraged you both the press the dough and choose a shape another shape.

I could see that [_____], wanted [_____] cutter and asking for the cutter she had by pointing and looking at me and say " eh eh" I supported you by asking [____] if you could have a turn with the star cutter, she kindly passed you the cutter.

I see that you are starting to expand on your relationships with the other children and I often see you and [____] playing alongside of each other.

The photo below is another moment that I captured you working along side of [____].

What learning do I think is happening here?

[____] is learning about sharing his space with others. This makes him aware of others and the start of him developing relationship with the other children. Playing alongside or parallel play allows [____] to see what [____] is doing and giving her ideas ago. Its provides a new way for him to gather information and learn new skills.

Opportunities and possibilities?

Supporting [____] to interact with other children as he discovers that there lots of new and exciting things that other children explore.

Link to Te Whāriki

WELL-BEING	Children experience an environment where their emotional well-being is nurtured.
CONTRIBUTION	Children experience an environment where there are equitable opportunities for learning, irrespective of gender, ability, age, ethnicity, or background.
CONTRIBUTION	Children experience an environment where they are affirmed as individuals.
CONTRIBUTION	Children experience an environment where they are encouraged to learn with and alongside others.
COMMUNICATION	Children experience an environment where they develop non-verbal communication skills for a range of purposes.
COMMUNICATION	Children experience an environment where they develop verbal communication skills for a range of purposes.
COMMUNICATION	Children experience an environment where they discover and develop different ways to be creative and expressive.
EXPLORATION	Children experience an environment where their play is valued as meaningful learning and the importance of spontaneous play is recognised.
EXPLORATION	Children experience an environment where they gain confidence in and control of their bodies.
EXPLORATION	Children experience an environment where they learn strategies for active exploration, thinking, and reasoning.

The great outdoors - fire

19/06/2014

By: ▭

At the moment you attend ▭ on Fridays ▭, a day in which ▭ and I are outside teachers. ▭ has been strengthening children's interest in fires and I have noticed your curiosity in this concept. I know as a family you often go camping ▭, I wonder if you have camp fires too? I wonder if you have experiences to share with us - do you cook with the fire?

This morning Teacher has used the axe to cut up the wood for the fire and I noticed you observing this process. Later in the morning, you began holding a piece of wood on the stump and using your stick, just like an axe. When the fire was alight, you closely inspected the fire, seeing what was happening and you closely watched the other children putting wood on. You then decided to help too by placing some sticks into the fire.

We have been using our fires to cook - pikelets, potatoes, eggs, damper and soon some lemon muffins. I wonder if you would like to try one too ████████?

Link to Te Whāriki

EXPLORATION | Children experience an environment where their play is valued as meaningful learning and the importance of spontaneous play is recognised.

EXPLORATION | Children experience an environment where they gain confidence in and control of their bodies.

Jordan's paper-based portfolio

Outdoor Fires

05/06/2013
By: ▮▮▮▮▮▮▮

With the celebrations of Matariki (the Maori New year) looming it has inspired us to get the outdoor fires going. This is a new experience in the centre for some of our children and a very familiar one for others. Over lunch the fire smoldered away, with no flames to be seen. ▮▮▮▮▮ quietly pondered on the side of it. "Where has the fire gone?" he asked out loudly.

We had a discussion about what we could see and what we could hear. There was smoke pouring up out of the wood and we could hear cracking. But where had the fire gone?

▮▮▮▮▮ then began thinking about other experiences he has had with fire and began talking about smoke going up the chimney. Bringing this knowledge together with the fire in front of him ▮▮▮▮▮ came to his own conclusion announcing that the fire had gone up into the smoke up there (pointing to the sky).

What learning do I think is happening here?

I can see that the fire has taken your interest ▮

The fires will continue to be lit including during our Matariki feast. Offering this experience over many occasions gives children the opportunity to make meaning and develop their working theories around fire over time, like ▮ is doing in this story. It also gives children the opportunity to become familiar with and respectful of fire.

Opportunities and possibilities?

I am also very keen to share a favourite story of mine with you "How Maui found the Secret of Fire" perhaps this will see more sparks flying...

Last year we got so enthusiastic with fire we cooked homemade pizza's on it for our lunch! I wonder what learning journeys the fires may take us on this year?

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Jordan's ePortfolio

Golf Ball Garage! By [redacted]

Created on:**25/10/2013 11:06:04 a.m.**By:[redacted]

My name is [redacted], a third year student from the University of Waikato, completing my Bachelor of Teaching. I will be at [redacted] for 7 weeks as I explore this learning environment. Yesterday, I was over in the block corner with you [redacted] tidying up the blocks from earlier this morning. You looked up and me and said "we don't have to put them all away because I can build a tower instead." What a good idea [redacted]! I let you pick which blocks you wanted to use for your tower and which blocks we needed to put away. As I was busy stacking the larger blocks on the shelf, I hear your laughter from behind me. I turned to find you already begun working on a creation of your own. "Look [redacted] watch this one, look!" You exclaimed beaming with pride. You had joined 4 quarter circles together to form one big circle of blocks. Inside you placed a golf ball down and proceeded to spin it in the circle. You giggled with glee and

However, construction did not stop there. You then placed some rectangular blocks over the top of this circle, hiding the golf ball from sight. After you played a game of guess-what's-in-the-circle with one of your peers, you began adding more blocks on top of the circle, forming a roof-like structure. I noticed the ball was still inside so I asked, "What are you making there [redacted]?" You paused, deep in thought about the direction you wanted to take. "Umm, its a golf ball garage" you stated.
"Why does your golf ball need a garage, [redacted]?" I inquired curious as to where you were going with this. "Um because he is scared," you stated.
"Oh dear," I replied,"what is he scared of?" I wondered.
"He's scared of the thunder," you decided, "an when he's in his garage he can't hear the thunder."
"well that's good then."
"But, but except when I do this!" with this you picked up two longer blocks and began to bang on the roof of the golf ball garage.

After the thunder demonstration, you moved on to expand the construction. You began by piling small blocks, one on top of the other, at the far end of the golfball garage. I asked you, ▓▓▓▓, what this part was and you stated "it's a tower. Let's see how high it can go before falling." You seemed excited by your suggestion and before I knew it you were focused on your new part of the plan. Each time you built the tower higher you requested I take another picture, kneeling up you said "▓▓▓▓ look how tall! Take a picture!"

You excitedly piled the blocks higher and higher until the tower was so tall, you had to stand up to place a block on top of the next. Still you requested I document the entire construction, each block asking me for a photo and occasionally peeking over my shoulder on the tablet, making sure I was doing as you instructed. You placed a block on the top of the tower and giggled with excitement as it wobbled, unsteady under the weight. Your anticipation of a sign like this was building and we knew it would not be long now until the tower fell. The last block you placed made the tower wobble again, there was a pause, and then... CRASH!

The tower was no more but the golfball garage was surprisingly still intact. You showed great persistence and focus throughout the entire construction of your golfball garage ▓▓▓▓, Ka Pai!

What learning do I think is happening here?

▓▓▓▓ not only showed skills of persistence and focus, but also the skill to elaborate on his ideas as his play progressed. This entire construction began with a golf ball being in the block corner. This seemingly out of place object caught ▓▓▓▓ eye and he was able to incorporate it into his play. ▓▓▓▓ construction did not stop once he had built his golf ball garage and he instead decided to expand on this creation as a foundation for more exploration with blocks. ▓▓▓▓ showed me that he was capable of evolving the garage to hold a tower. Although the aim of the tower was rather separate to that of the golf ball garage, he did not forget about that part of his play, just used it for a different purpose. ▓▓▓▓ aim with the tower was to see how high he could build it before it fell over. This meant that he was not upset when it did fall over for two reasons; one, it was the climax of his experience, and two, the foundation of the golf ball garage was unharmed. ▓▓▓▓ was focused on the construction of the golf ball garage and did become upset when he knocked a plank out of place with his arm; showing his hard work and dedication to the construction. Even though he had these feelings towards the garage construction, ▓▓▓▓ was still happy to elaborate on this as his play progressed. This showed me that he is open to new ideas and wants to keep setting challenges and goals for himself to continue his play and exploration.

Opportunities and possibilities?

I would really like to see how ▓▓▓▓ can expand and elaborate in other areas of his play. Maybe not in the block corner, but see how he might want to expand in the art area or in the sand pit. I personally think that ▓▓▓▓ would benefit from exploring with how he can and would like to elaborate on his own creations. I hope this might provoke reflective thinking and help him to develop working theories about his own creations and the world around him.

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Revisiting bike day

Created on:3/04/2014 12:54:58 p.m.By: ▮▮▮▮▮▮▮

On our recent bike day ▮▮▮▮ you stood out to me as you were confidently riding the bike round and round the playground. As I wrote your learning story, I was contemplating another bike day as it was such a hit with all the children and teachers. Responding to this, I decided you were my helper for writing the sign as I also know you have been exploring letter formation and understanding the world of words. I noticed you totally engaged in making this sign, wondering what the letter is, how it feels to write and what it looks like. You then proudly placed the sign on the door, so everyone could read it and remember to bring their bikes to ▮▮▮▮▮.

What learning do I think is happening here?

▮▮▮▮, you are developing your knowledge and understanding towards the world of words and letters. You have sound knowledge in that words can be read by others and each letter you write represents meaning. This sign was significant to you as you got to practice letters different to the ones in your name and you also showed me the letters to knew confidently creating this into a meaningful moment for us both.

"Children experience an environment where they experience the stories and symbols of their own and other cultures - familiarity with print and its uses by exploring and observing the use of print in activities that have meaning and purpose for children" (Te Whaariki, 1996).

Opportunities and possibilities?

I know that recently ▮▮▮▮ went to school and your older brother ▮▮▮▮ also goes to school, I wonder if they are inspiring you as they share their ideas around words and letters and their homework with you ▮▮▮▮?

Taking it further

Today I thought I would make a 'Rainmaker' for our outside music area, many of the children were curious about the process, including you �. We started with a tube and banged in some nails.

As the photo shows, this was a team effort. ▏▏, you were part of the initial crew and when other children showed an interest in what we were doing you offered your hammer and support to ▏▏. Thank you.

After we had put in enough nails we put in some beads for sound, capped the ends and began the bit you really enjoyed, covering the tube in paper mashie. No photos sorry, my hands were covered in glue. We had so much fun that I made a smaller one to keep us busy while we waited for the glue to dry on the big one.

Then I went for my lunch, when I returned you were busy at the art table making your own paper mache creation. When you finished you put in the sun to dry and at the end of the day you shared your finished product with me.

Tu Meke

What learning do I think is happening here?

New skills come through practice, and we certainly practiced today and you took it a little further by making your own creation.

Added to this is your support of _____, learning is a process:

- Practice a skill
- Master a skill
- Teach that skill to others

Teacher and learner all in one day, thank you for making my day.

Opportunities and possibilities?

We still have more paper mache to do and I think that you might explore this medium and lead us in so many different directions.

Comments:

That's great _____!!! I can see that your talent for Art is making things. You have patience with others and helpful to everyone like you are at home. Kai Pai

Written By _____ **Parent** 4/06/2014 10:25:36 p.m.

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Amelia's paper-based portfolio

Date: 29th April 2013   Kaiako: [ ]

Kia ora [ ]! And another
BIG warm welcome to you and
your whanau from all of us here
in the under two's. ☺

Your Mum [ ] and I have
shared lots of korero about what
your days may look like at home
and through those discussions
Mum has shared with me lots of
really important information
about you to help me care for
you during your time here at
[ ]. Together Mum and I
have made some notes to remind us and help others learn more about
your care routines such as eating/ feeding, sleeping and your general
well-being so other teachers such as [ ], [ ] and [ ] all
know where you are at if ever we need their support.

On the next page are our notes..... ☺

Chatter, chatter, roll, roll!

31/07/2013
By:

████, you are becoming a very busy girl, rolling here and there, kicking your legs and waving your arms all about. You are chatting and making several noises thoughout each day. Your smile never fades and as I spend time with you I am learning about your needs and during your play I am learning about your interests and cheeky personality. Your favorite thing to do at the moment is hide yourself away under a cloth or your play mat. I've noticed this about you and often engage with you by dangling a peice of material above you and by also allowing you to interact with it. I recognise that this brings you pleasure and excitment, stimulating your senses and delighting them! I wonder if its the feel of the cloth that you find comforting as you hide away and snuggle in? or are you enjoying a game of peek-a-

boo? Often once you have rolled onto your tummy you lay your head down on the cloth and seem relaxed and contented. I'm enjoying spending time with you████and getting to know you well. I love interacting with you in these ways as I see your joy and discovery unfold.

What learning do I think is happening here?

"Every experience that a baby has occurs within a physical experience, a feeling state and, generally, information from the environment that both inspires the moment and i forms it" (Wittmer & Petersen, 2013, pg.120). Allowing you time to engage with soft, comforting, stimulating materials supports your sense of belonging here and allows you time to explore with your body and surroundings as we engage in meaningful interactions.

Opportunities and possibilities?

Continuing to evaluate the environment and resources avaliable to you will ensure you have all the time, resources and space you need to move freely, discover and learn with and alongside myself, other teachers and your peers.

Link to Te Whāriki

WELL-BEING	Children experience an environment where their emotional well-being is nurtured.
EXPLORATION	Children experience an environment where they gain confidence in and control of their bodies.
EXPLORATION	Children experience an environment where they develop working theories for making sense of the natural, social, physical, and material worlds.

A new time of life- making movement

17/10/2013

By: [ ]

[ ], you are forever changing and growing, lately I have recognised the ways in which you are communicating with myself and with others, you are shaking your head, waving, clapping and grooving to the beats of the guitar. You are entering another new stage in your life as you enter your ninth month, your body is coming to life, you have discovered your fingers and toes, your ability to manipulate your body to create fascinating movement and have an effect on people and objects around you "It is through movement, muscular coordination, and the organisation of perceptions that young children find out about, and make sense of their world" (Gonzalez-Mena & Eyer, 2001, pg.103).

I am seeing you move in more complex ways as you discover new positions and ways to move yourself forward. Yesterday (31/10/13) I watched you as you manipulated your body in a semi-crawl position you move yourself forward.

What learning do I think is happening here?

You are persisting and practicing over time which will lead to mastery of skills such as crawling.

Opportunities and possibilities?

I will support your endeavours by providing you with plenty of space to practice your movement and master skills.

Link to Te Whāriki

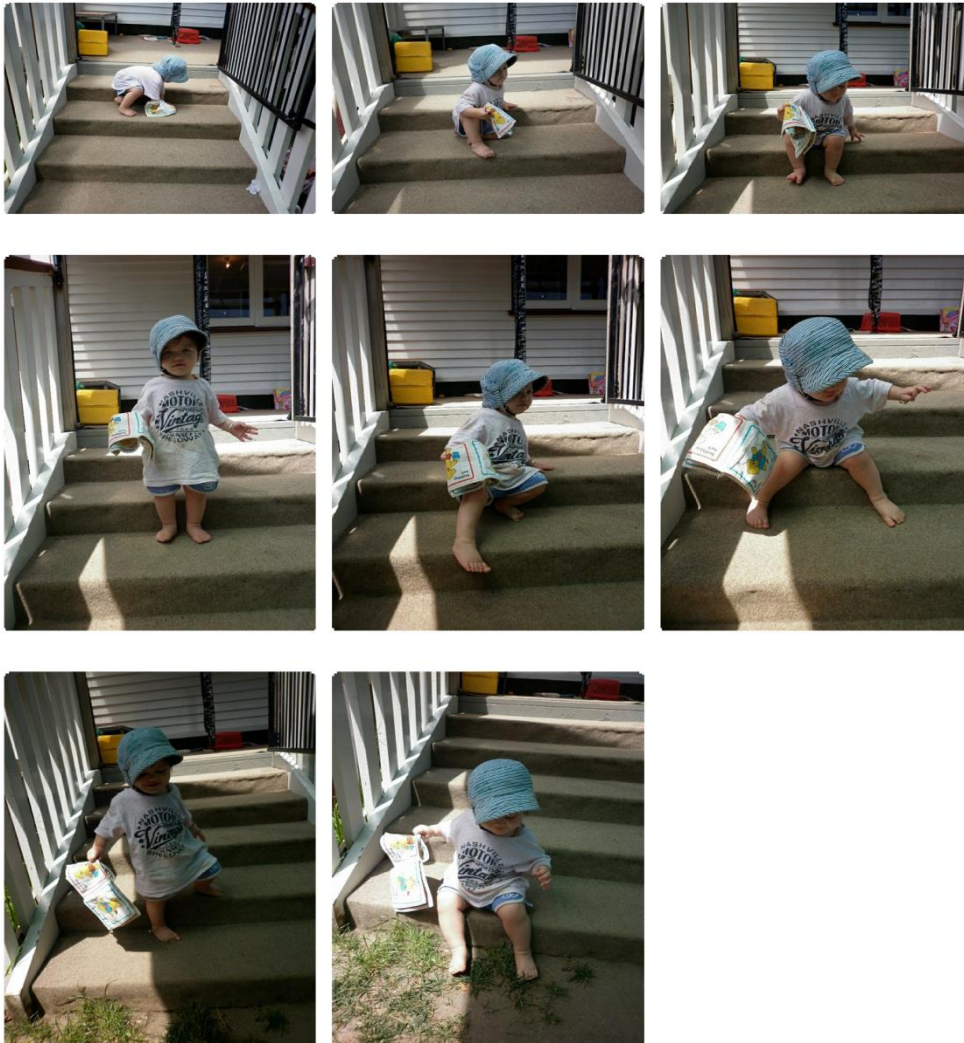|	
EXPLORATION	Children experience an environment where they gain confidence in and control of their bodies.
EXPLORATION	Children experience an environment where they learn strategies for active exploration, thinking, and reasoning.

Mastering the stairs!!

19/02/2014
By: [_____]

Wow [_____] you have mastered the stairs. With one foot after another, you walk down the stairs. I have been watching you practice and today was able to catch you in the act. All that practicing has paid off. You are one persistant person, this disposition will take you far in life. Well-done [_____].

Whānau Voice / Comments

13/03/2014

Hi thats awesome. Well done moko

Grandparent one

13/03/2014

Clever [_____] girl, well done!!

Grandparent two

14/03/2014

You are growing up far to fast. Love you little one.

Grandparent three

Balancing, concentrating and perserverance

03/03/2014
By: [REDACTED]

[REDACTED] what I know about you it that you enjoy puzzles and posting objects. Here you sitting quietly concentrating on putting the rings on and off the stick. This was the first time that I had seen you playing with the ring stacker.

Here you were focusing on the hole in the middle of the disc and carefully lining the hole in the discs up with the stick and successfully sliding it on. This particular piece of equipment gives you opportunity to strengthen your eye hand co ordination and discover colours, serrating from biggest to smallest. [REDACTED] as you successfully put on each disc you looked for

another one until all the discs you could see were on the stick.

As I closely look at the photos I took, I noticed you supporting your body with one hand and you are leaning back and as you are looking you are lining up the hole in the disc with the top of the stick. Another photo shows you balancing as you hold the stick in one hand and the disc in the other one which you were again lining it up and placing it on. Amazing you had such balance and concentration to achieve getting the disc on the stick.

Wow, ! [REDACTED] what an achievement, you were able to balance yourself while completing putting the rings on to the stick. This took a lot of concentration and perseverance, I so proud of you.

Opportunities and possibilities?
[REDACTED] interest in puzzles and this particular equipment provides opportunity to scaffold her in learning colours and biggest to smallest as the disc are all different sizes.

Whānau Voice / Comments

24/03/2014

So gorgeous, she is obviously quite at home there!! Thanks for the up dates on my grand daughter [REDACTED] much appreciated!!

Grandparent

Reece's paper-based portfolio

Parent contribution...

Please feel free to share your thoughts and feelings about [redacted] coming through to the over twos..
Add photos of your family..

We were a little worried about [redacted] transition to the over twos as [redacted] enjoyed the under twos with [redacted]. However [redacted] has taken it in her stride and relished her shift up. She was lucky to have great support from [redacted] and to find [redacted] teaching up there too. Thanks so much to the teachers for giving [redacted] a fun secure friendly place to come! [redacted] was especially pleased to meet up with her friends [redacted]. We love hearing stories from the teachers of the funny things you do [redacted]. You love playing outdoors in the fun playground and playing with the baby dolls. The paintings you are bringing home are great and take pride of place on our wall. We can't believe how much of a big girl you have become and are so happy that [redacted] gives you a great place to play, learn, grow and be happy! Once up to the Overtwos you became interested in the toilet and being a big girl. Thank goodness you like the food at [redacted] and eat really well there – you don't eat like that at home so [redacted] must be a great cook. Thanks to all the teachers for helping [redacted] become a ...

Coffee Anyone?

Today [ ] made a connection between some of our lids available to the children for making creations, and the take away coffee's her Mum gets.

She took the lid and found a cup that fit and poured herself a drink.

Soon all her friends joined her with their coffees at the kai table too, inspired by what she had done.

Dramatic play is a strong vehicle for [ ] learning here at [ ]. Through dramatic play children act out, re create experiences and things that happen throughout their world.
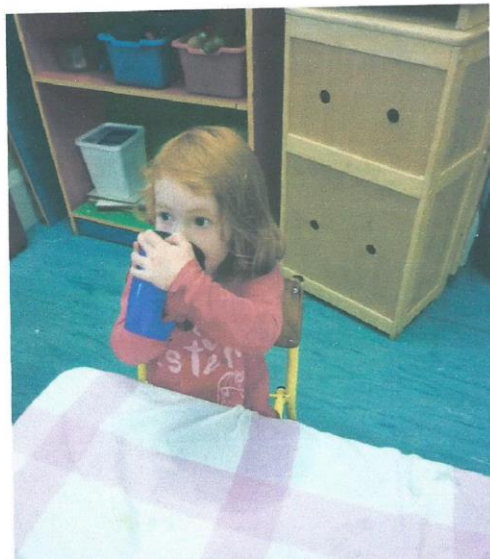
I believe that this was an extension of [ ] dramatic play as she saw something that was familiar to her (the coffee lid) and ran with that, re—creating and re—enacting her experience with this object.

It was neat to see her make this connection and the other children join in on her idea, everybody had coffee with their afternoon tea on this day.

Child: [ ]   Date: 22.3.12   Teacher: [ ]
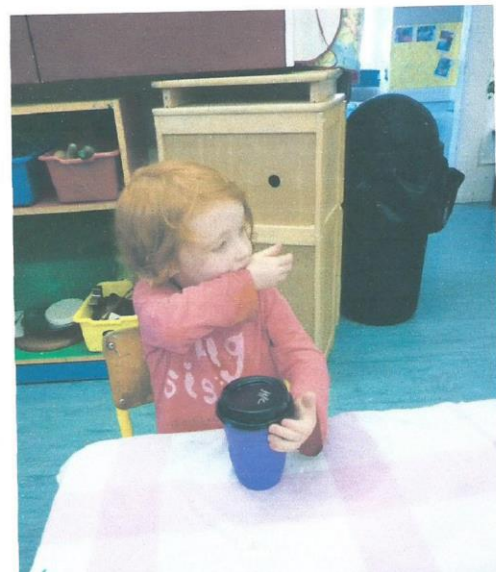
Dressing For Success

Today I set out to make skirts with the tamariki. [____], when mum dropped you off this morning you were not that keen, but by morning tea time I had moved my stall in the hope to get more punters and you came along, determined as! "I want to make a skirt" you said to me as you chose your fabric and set about making it.

[____] soon followed and slipped into the role of your helper. I showed him how to cut a small bit of the fabric with scissors, then grab both sides and tear it to make a strip.

I admired the way you both worked individually and together.

[____] you enjoyed the fact that you were helping your sister make a skirt. I admired how you worked away with me cutting the strips happily chatting as you went. You were positive about your skills to help in this project and showed great initiative to keep the project going to completion. For example recognising that we needed more fabric and hunting out more of the same type when we needed it.

[____], I admired your ability to stick to a task that you had set out to do, holding in your mind an image of what it was you were working towards.

Tino pai, [____] and [____], your team work and creating was enjoyable and harmonious to be a part of and what a styley skirt you made!

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Reece's ePortfolio

Creative Inspiration

Created on:**6/08/2013 3:11:41 p.m.**By: ▮▮▮▮▮▮▮
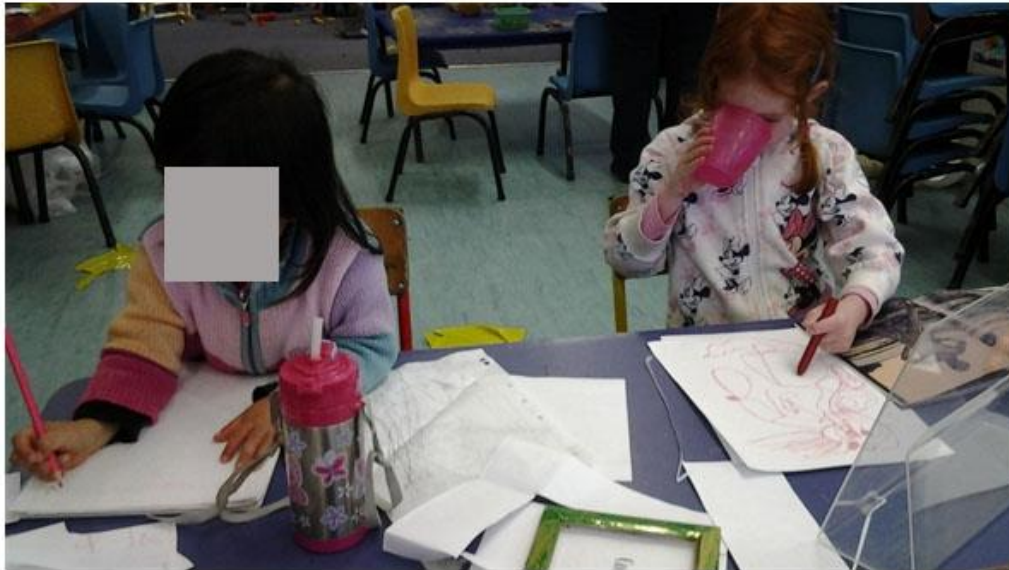
▮▮▮▮, I captured these photos because I was impressed with your level of concentration and intention around what you were doing.

While drawing pictures I mentioned that some of what you were drawing reminded me of what I had seen at the Wearable Arts Exhibition at the Waikato Museum. I found the book for you showing casing what I was talking about and you intently perused through it, finding this image of a person in a printed body suit. Inspired by this you continued on with your picture, frequently taking note of the image and adding more to your drawing.

I never got to see your completed drawing, knowing you ▮▮▮▮ i'm sure it would have been tucked away somewhere special. I look forward to getting out that book again and seeing what else may inspire you.

Wow what a great picture ▮▮▮ and wonderful inspiration ▮▮▮. There ended up being two pictures in this series and ▮▮▮ has proudly blue tacked them on her wall beside her bed. She did this herself so these pictures do seem to be very special for her.

Written By ▮▮▮ **Parent** ▮▮▮ 14/08/2013 9:25:04 p.m.

Hello ▮▮▮, this is just amazing. Who knows where ▮▮▮ talents will lie in the future, but given so much opportunity to explore her potential at such a young age, the world is her oyster. I just love the concentration captured in the photo. Thanks so much for taking the time to share the photos and the inspiration behind the activity.
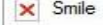
Would 'sharing' finished artwork, either electronically or by posting (to us) be a possible learning tool for ▮▮▮. Whatever you do, you can be sure we would respond.

Incase you choose to use 'snail mail' we are ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮, ▮▮▮▮▮▮▮▮▮▮▮

▮▮▮▮▮▮▮▮▮▮, aka GrannyB

Written By ▮▮ **Grandparent** ▮▮ 15/08/2013 10:36:22 a.m.

Thank you for your feedback. Your comments confirm to me how ▮▮▮ takes pride in and responsibility for her work. It was very awesome to hear that she had treasured this picture, that she had worked so thoughtfully and hard on ▮▮ ❌ Smile

GrannyB in ▮▮▮ profile there is a photo gallery perhaps we could take photos of her finished pieces and upload them there for you to see. I am also interested in the artistic ventures she may get up to at home and at your house!

▮▮▮

Written By ▮▮ **Teacher** ▮▮ 28/08/2013 10:16:07 a.m.

Comments:

Hello ▮▮▮

Thanks for taking the time to respond to my comment. I am the 'sporty/tramping/conservation minded' granny!!!!! I am in awe of her Gran (maternal granny), Aunt ▮▮▮ and her mum ▮▮▮ artistic talents. When ▮▮▮ and I get together we often look at patterns in nature (and I introduce native tree names/birds etc as we go.) She may tell you about the 'little green stars' (the tiny green plants found on stagnant water) we find along the Waikato river walk way.

I am sure you have lots to do, so I am not expecting a reply, but it is lovely to have a forum to interact with ▮▮▮ and ▮▮▮ learning.

Written By ▮▮ **Grandparent** ▮▮ 28/08/2013 11:13:06 a.m.

Sounds of the Bush

Created on:**13/09/2013 5:05:16 p.m.**By: ▮▮▮▮▮▮

▮▮▮▮▮ I noticed you paying very close attention to the actions ▮▮▮▮ was demonstrating to the Kiwi Bird song as part of the Sounds of the Bush puppet show on Wednesday.

To stand up and perform in front of a big group takes a lot of courage ▮▮▮▮▮, you played the part of the sun, and the moon in the legend about how the kiwi lost it's wings. What a fabulous performance.

Mum tells me that Granny B helps protect our native birds ▮▮▮▮.

From ▮▮▮▮▮

To ▮▮▮▮, from ▮▮▮▮▮

▮▮▮▮▮, you don't normally come to ▮▮▮▮▮▮ on a Wednesday but today your Mum brought you and ▮▮▮▮ in especially to see the puppet show before you headed off to swimming. I know recently your GrannyB shared with us how the two of you enjoy searching for patterns in nature and talking through the names of the different birds and trees you find along the way. As I noticed you watching intently to the show I reflected upon these thoughts your GrannyB had shared with us and I wondered what was going through your mind as you listened to the different sounds of the forest. We heard the noise of a tui, a morepork, a kiwi, a tuatara, a bat, a possum and more. I wonder if you will share this with GrannyB when you see her next?

In the puppet show you also got to particpate by holding up the sun and moon to the sky in your hand like ▮▮▮▮▮▮ has noted. ▮▮▮▮▮ did lots of talking when you were the sun and I noticed you holding your arm up high but then it began to lose feeling. I really liked how you persisted with this role you had been given and stuck to it till the end by finding ways to keep your arm up to be the bright sun. Like ▮▮▮▮▮ has said, we admired your courage in performing in front of others and how you took ownership towards the part you played.

What learning do I think is happening here?

The sharing of stories and documentation through Educa has opened the doors of communication by allowing us to share children's learning through both home life and the centre too. Whilst I was listening to the show, I was reflective upon your time with GrannyB ▮▮▮▮ and wondered if you had heard of these creatures in the forest before. We are working together to help you have knowledge about the world around you ▮▮▮▮ and develop a strong interest in the natural world of animals and living things.

Opportunities and possibilities?

We shall continue to explore the natural world with you ▮▮▮▮. I wonder if you have any photos or thoughts to share about your adventures with GrannyB when you go into the natural world..

Video included ▮▮▮▮▮▮▮▮▮▮▮▮▮▮

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Whow, ▒▒▒! What a great part you played in the puppet show. The sun is so important to keep all plants (and animals) growing big and strong. You had to be strong to hold up the sun for so long!!!

There are lots of birds nesting amongst the branches of the avocado trees at the moment. Next time you come to see me, we will go on a bird nest hunt.

Written By **Grandparent** 18/09/2013 12:12:44 p.m.

▒▒▒, your long kiwi beak was excellent!

Written By **Grandparent** 18/09/2013 12:15:28 p.m.

Hello ▒▒▒ and all the ▒▒▒ staff

I have sent a wooden puzzle 'Native Birds of NZ' to ▒▒▒ by mail today. I would like the Centre to have the puzzle. It goes well with the theme 'Sounds of the Bush'. I hope the children enjoy the puzzle, and perhaps enjoy learning both the English and Maori names. Piwakawaka, the fantail, was always the favourite of my Papamoa Grandchildren

GrannyB

Written By **Grandparent** 19/09/2013 7:54:10 p.m.

Comments:

Thank you so much GrannyB for your act of kindness, we were all very excited to receive your parcel. ▒▒▒ is in the process of writing a story about it.

Teacher and all the ▒▒▒ staff :)

Written By ▒▒▒ 21/09/2013 11:56:43 a.m.

A present from GrannyB and Grandad

Created on:20/09/2013 12:54:53 p.m.By:

and , has informed me that your GrannyB and Grandad have sent us a present for Lintotts and we gathered around the table to see what is inside. Together, you slowly unwrapped it with anticipation, curiosity and wonderment as you pull the wrapper off. When you reach the puzzle, some of the pieces have fallen out and together you begin to put the pieces back into the correct place. We then talked through the names of the birds on the puzzle and we get involved in discussion of how you go out with GrannyB and listen for the birds. We also discussed how this was a gift from your Grandparents to and you both wanted to take the puzzle home. We then discovered that GrannyB had written us a message on Educa to go along with the puzzle and I read this to you, this written word allowed you to understand what GrannyB had intended with her gift, for you to share it with all your friends at , and for us to learn from doing it.

At lunch time, I showed all the children our new puzzle and how your Grandparents had sent us this special gift. After lunch I noticed a number of children exploring this new puzzle and working with the teachers to talk through the names of the birds.

What learning do I think is happening here?

To GrannyB and Grandad, we appreciate your act of kindness and sending us a special puzzle which I have noticed already being popular with not only your grandchildren but also the other children within the centre. We value how you have been reflective upon our current interests in the centre and provide a resources which continues to support the children's learning.

     and   , I noticed the way the two of your worked closely together in completing this puzzle showing cooperation and understanding of this topic.

Opportunities and possibilities?

     and   we shall continue to support, value and encourage your family to be part of our   Community.

Video included

Kate's paper-based portfolio

Date: 13th June 2012

Strike a pose!

Fashion profile:

Name: [REDACTED]
Age: 16 months
Currently situated in the Under Two's room at [REDACTED] Childcare Centre.

Interests and hobbies:
Music, dancing, art including painting, baby dolls, sandpit, slides, magnetics, hands on activities.

Skills and attributes: Active explorer, keen observer, independent and responsible, enthusiastic learner, not to afraid to think outside the box...

[REDACTED] specialises in bold and colourful knitwear pieces.

[REDACTED], I had to share this scrummy photo with you and your whanau because it just so genuinely reflects the smiley, funny, humorous being that you are! You didn't stop smiling after this photo was taken, you were so proud and wanted to show all your friends this new piece of knitwear you were modelling! Strike a pose [REDACTED]!!

Teacher [ ]

As I watched from a distance I noticed [ ] and [ ] looking intently at you [ ]. As I moved closer I noticed a book perched in your hands, you were deep in conversations as you were retelling the story hidden within those pages. [ ] was responding as she shared her thoughts and then there was a moment of laughter shared between you all. As I reflect upon this photo it reminds of being a teacher whereby we hold up a book and we read loveable stories - with the attention of [ ] and [ ] I would say you are having a teachable moment [ ].

[ ], I think you are showing confidence in speaking in front of others, developing your story telling skills and sharing in the enjoyment of literature with others. I wonder if we can find some more books for you to share with others and hold your interest....

Date: September 2012   Teacher: [ ]

Welcome to the over twos [ ]

[ ] we set up a transitioning programme from the under twos for you but already by the second week you were ahead on our timetable!

You have fitted into the pattern of our day so easily and smoothly and already show a strong sense of belonging and well-being with us. I see you taking an interest and observing the people, places and things around you and confidently joining in and exploring with the other children. You show a sense of fun and adventure as you take on new challenges.
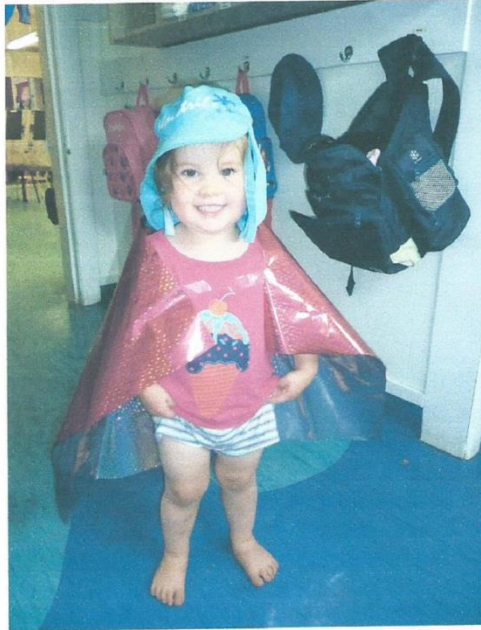
As your key teacher [ ] I am enjoying reconnecting with you again and excited about being on this learning journey with you – getting to know your needs, interests and strengths as we explore together.

14.02.13   Kaiako: [ ]

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Drawing your family

16/10/2013

By: [redacted]

Mummy   Daddy   Bones

The children and myself have been exploring chalk outside on the concrete and today on the fence. [redacted], you were captured by this idea of drawing on the fence and you began drawing shapes and lines. These turned into drawings of your family. "This is Daddy - a head, a body, legs, arms and bones" you began saying to me. Then you continued to say "this is Mummy - long hair and long legs. My Mummy is funny. This is my brother [redacted], he funny, I am funny". I was really captured by your thoughts on bones as I remembered recently I wrote a story around you learning about the body and that we have bones inside our skin. I wonder if you are connecting this knowledge you have and sharing it through your drawings [redacted]?

My brother, [redacted]   Mummy   Nana   Me ([redacted])
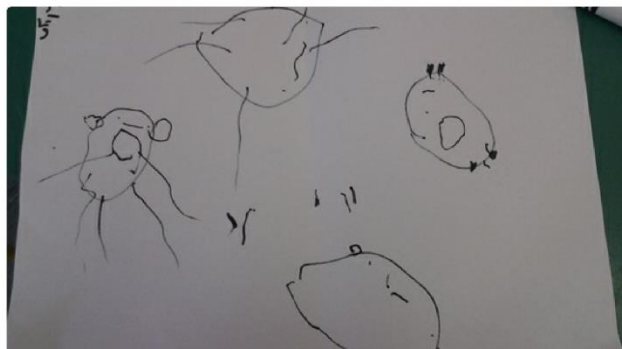
The next day, you drew this picture [redacted] with [redacted] and again it showed your strong understanding of the body as you included ears, eyes, and a mouth. "My Nana got legs and ears, two ears". (Dad was on the other side of the paper).

What learning do I think is happening here?

"It starts with the joy of making marks and lines. Gradually lines begin to speak to the imagination. Children become aware that lines can represent things - people and objects" (Urusula koble, 2001). After reading this in a children's art development book and reflecting back to [____] story in August of the picture you had drawn, I can see how you have developed your artisitic side over time [____]. You have learnt about drawing shapes and lines and now you are extending upon this by pulling them together to show your ideas and creating purpose to you work as you draw the meaningful people to you.   Over time you have gathered new knowledge and understandings, like bones and can include them into your drawings as you piece together the world you life in. Ursula koble (2001) continues to say "of all the visual arts, drawing is the quickest and most direct way of making ideas visible. It is an incredibly powerful tool - a language- that enables children to explain things to themselves and to others." [____], in the moments I have been with you in drawing you are sharing your voice and explaining the ideas behind your work.

Opportunities and possibilities?

I observe with interest [____] as you learn more about drawing through working with others and in practice. I look forward to seeing where your creativity takes you in your learning journey and I will endeavour to find more materials for you to explore and strengthen this creative disposition.

Whānau Voice / Comments

22/10/2013

Lovely drawings [____] - thank you for drawing Nannie too :-)

Grandparent

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Caring for baby

20/11/2013
By: [REDACTED]

[REDACTED], we have recently shifted the family play area and with this I have noticed a growing interest in this area. This morning I found you lost in your play as you spent time caring for your baby.

"Baby is having a meal" you say looking at me, "baby is drinking milk, I am drinking my drink, a coffee." "What is baby having to eat?" I ask you, "she is eating egg, she likes eggs" you say with a smile. I then noticed the way you gently began feeding baby and making sure she got her drink too. Once baby had finished her kai you said "baby is going to bed, she is sleeping by [REDACTED].. blanket on."
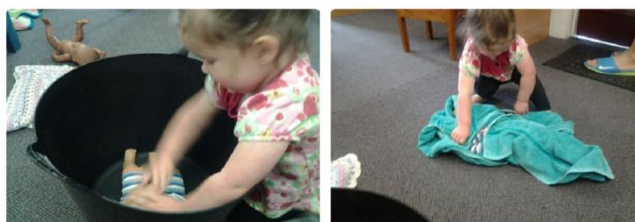
Once baby had finished sleeping you said "she needs to get in the bath. I get her bath." You found this small basket which baby had grown out of, so I gathered up this big black bucket for you which was perfect for your baby. "I wash babies hair, I will get soap, that is soap, new soap" you say as I noticed how carefully you washed babies head and legs. "I put his hoody on, I get a towel on, I want to dress up like the mum" you say as we search through the dress up clothes together finding something you might like. Once you were dressed you went back to your baby and knelt down beside her and said "baby up arms in there, arm in there, my baby has a skirt on, she did it by herself."

What learning do I think is happening here?

⬚, you were deeply engaged with caring for your baby, thinking through each of the steps to care for your baby like feeding baby, sleeping baby and making sure baby was clean. You took on the role of Mum as you played out your understanding of this role and developed your ideas as you became more involved in your play. You spent most of your morning here ⬚, which tells me you have a long attention span for playing with babies as it shines through as an interest for you. I look forward to seeing how this evolves over time ⬚. and capturing more of your thoughts.

Opportunities and possibilities?

Next week ⬚ I am going on holiday but when I get back I would like to fill that black bucket with water so you can wash your baby. I wonder what you will think about that..

Whānau Voice / Comments

04/12/2013

What a wonderful Mum ⬚ so caring as usual

Grandparents

'A' for [redacted]

19/03/2014

By: [redacted]

In quiet time outside, you found me on the concrete playing with the chalk [redacted] and you came down beside me and began creating. "A for [redacted]' you said to me. "And a s" you continued, "writing my name". You then asked me about the other letters in your name and also the letters in [redacted] name. We talked about how your name and [redacted] name both have a 'y' and a 'n' as I wrote them on the concrete.

"I write my Mummy's name, does it start with that" you say. "It does.. This says Mummy" you inform me.

What learning do I think is happening here?

Today [redacted], you were sharing your knowledge with me around the letters of your name. You know that your name starts with an 'A' and has an 's'. You are showing awareness of letters and you know that letters put together create words and words can have meaning and be read by others.

"The programme fosters the development of concepts about print, such as the knowledge that print conveys a message that can be revisited, that spoken words can be written down and read back, and that written names represent a person" (Ministry of Education, 1997, p.79)

Opportunities and possibilities?
The learning of letters is implemented within a meaningful context for you ⬜ so you can continue to be excited about writing. I will continue to document your journey in literacy with excitment as you develop these skills over time.
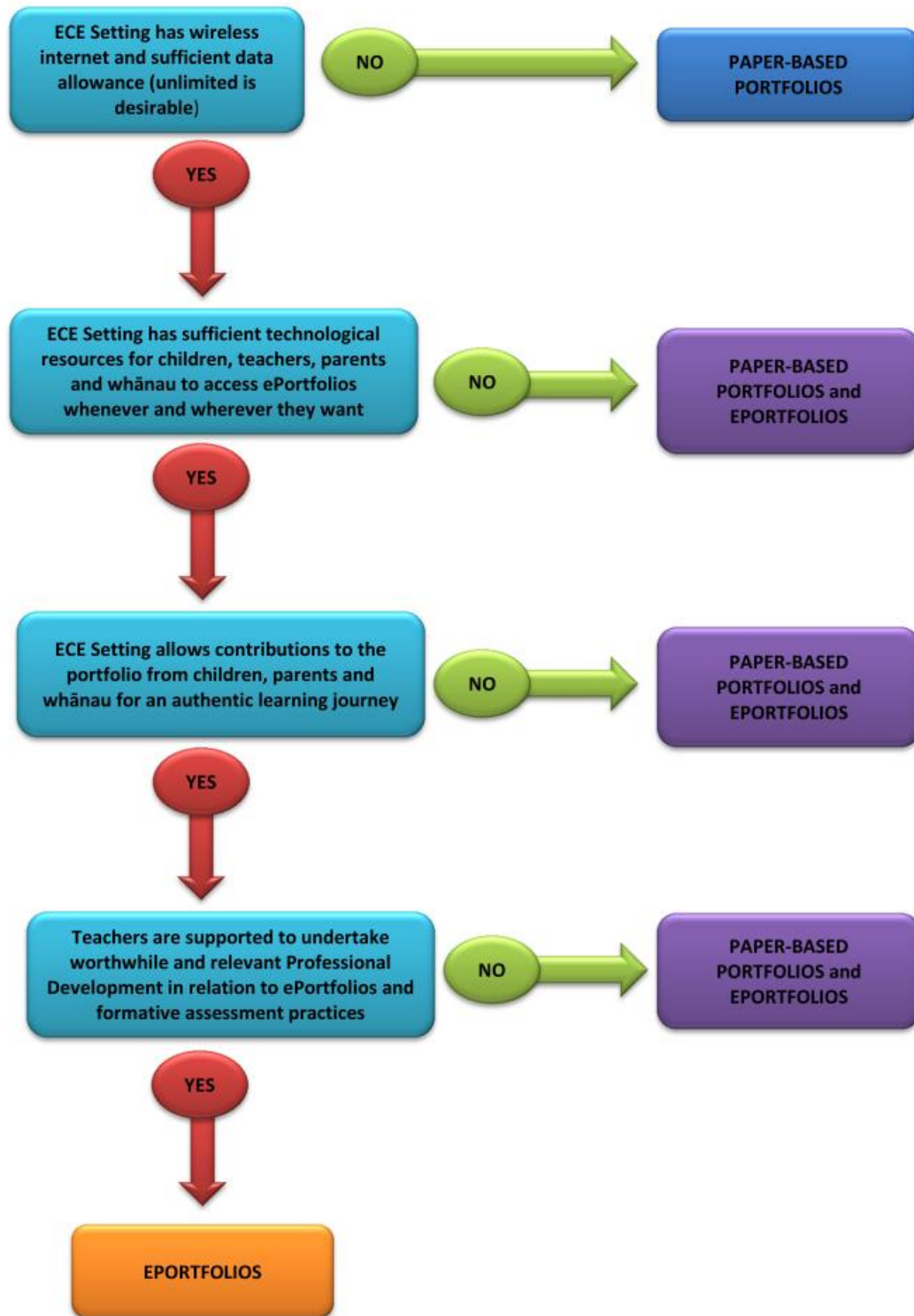
Link to Te Whāriki

COMMUNICATION   Children experience an environment where they experience the stories and symbols of their own and other cultures.

Appendix Eleven – Evaluative Tool for ECE Settings

Choosing a portfolio format

EVALUATIVE TOOL FOR PORTFOLIOS

Choosing an ePortfolio programme

As more ePortfolio programmes specifically focussed on early childhood education settings come on to the market it is essential that ECE settings ensure that the following features are included when selecting a platform for their service:

- The programme has been developed with input from ECE practitioners, researchers and ICT experts (and this input is ongoing).
  - o This means that the platform will be based on sound educational knowledge which will enable teachers, parents, whānau and children to contribute to an authentic journey of learning and development.
- The programme developers are responsive to industry needs.
  - o This means that the platform will reflect current thinking in early childhood education. The programme should be fluid and evolving to meet the principles of specific philosophies within the early childhood education sector, as well as individual service needs.
- Ongoing professional development is provided through the programme for teachers, not only in terms of using the platform (advances in technology) but also in sound formative assessment practices.
  - o As the programme responds to changes in the early childhood education sector it must also provide a rationale for doing so and professional development opportunities for teachers to enable them to understand and work with such changes.
- The ePortfolio platform has a template which is not only 'user friendly' but provides a guide for recording learning based on educational knowledge about formative assessment.
  - o The template should include an section for writing the learning story, followed by an area where the learning that is happening is identified. It also needs a section which focuses on where to next – how can the learning be supported, expanded on or extended?

- The ePortfolio platform also needs to be easy to use – for teachers, parents and whānau _and_ children. Children should be able to add their own documentation, such as uploading a photo or video, or indeed even recording their own Learning Stories and moments.

- The platform needs to invite parent and whānau engagement. It must allow not only for comments but also for parents and whānau to contribute Learning Stories, learning moments, photos, videos and any other documentation they choose. It should also allow parents, whānau and children to become part of the ECE setting's 'everyday life' by allowing comments and feedback on notices and other reminders posted by the ECE setting – this will strengthen the ECE setting's community of practice.

Link to online tool:

https://sites.google.com/site/ePortfoliosinece/home