

## An e-portfolio theoretical approach for Provisionally Registered Teachers

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Electronic portfolios offer an option for early childhood provisionally registered teachers (PRTs) to attest to the Registered Teacher Criteria (New Zealand Teachers Council, 2010) through the purposeful selection and reflection of significant artifacts about their practice. Central to the use of e-portfolios is the theoretical framework developed to support the learning process for the PRTs. This paper outlines an e-portfolio project for a group of early childhood PRTs and their mentors, from a cohort of five Early Childhood Centres in the Auckland region. The project drew upon key principles from the early childhood curriculum Te Whāriki (Ministry of Education, 1996), pedagogical documentation, and e-portfolio best practice. The project's intention was to create a more effective approach for teachers to engage in the provisionally registered teachers programme, enabling a rich narrative of the teacher's pedagogical research to be profiled rather than being a repository of evidence.

Keywords: e-portfolios, provisionally registered teachers, early childhood education, pedagogical documentation

### Background

While e-portfolios existed as early as the 1990's, only in the last decade have they become significantly widespread within educational settings, both in New Zealand and internationally (Fox, Britain & Hall 2009; JISC 2008). This recent and rapid evolution of e-portfolios has enabled educational institutions to adopt the technology for a range of purposes. E-portfolios are often positioned as either a *product* whereby focus is placed on the final presentation or completion of the e-portfolio, or as a *process*, which shifts the focus to the designing and building of an e-portfolio (Barrett, 2011). Tensions exist between the two approaches: the first often seen as an institutional tool for accountability purposes, and the tracking of student's progress; and the latter drawing attention to the learning journey, that supports a more learner centered approach of learner autonomy and reflection.

The challenge for many educational institutions is balancing external motivators, such as grades and required learning standards with the more pedagogically focused framework that promotes greater learner ownership and autonomy (Stefani, Mason & Pegler, 2007). Learners need clear guidance around the learning intentions and assessment expectations, and at the same time be given agency of their e-portfolios. Rather than a *tick box* compliance model, e-portfolios must support a holistic approach that is meaningful and authentic. This is essential in enabling learners to engage in life long learning, and to continue to incorporate their e-portfolios in future learning opportunities that are embedded and integrated in their professional practice.

For many educators, authentic learning takes place for students when greater emphasis is on the "rich and complex processes of planning, synthesizing, sharing, discussing, reflecting, giving, receiving and responding to feedback" (JISC, 2008, p. 6). On this premise many Teacher Education programmes have adopted the use of e-portfolios as a learning approach to promote students' inquiry and reflection (Shepherd & Skrabut, 2011). For example, in recent years at the Faculty of Education, The University of Auckland, e-portfolios have been used as both a place for students to engage in critical reflection in their course work and practicum placements, and as a receptacle of

evidence that they attest to the *Graduating Teacher Standards*. Through the use of e-portfolios graduating students have the ability to demonstrate their learning by drawing on a range of significant artifacts that they can continue to use and reflect upon as practicing teachers.

E-portfolios are also becoming more widely explored as a learning tool for New Zealand registering teachers to meet their registration criteria. This paper describes an e-portfolio project that brought together a cohort of centres to implement the use of e-portfolio to 20 PRTs, who were all at varying stages of the registration process. The intention was to create an integrated e-portfolio approach that enabled teachers to authentically investigate their areas of learning, as well as attest to the *Registered Teachers Criteria* laid out by the Teachers Council (NZTC, 2010). An e-portfolio theoretical framework and approach was developed that aligned e-portfolio best practice and drew from the underpinning principles of *Te Whāriki* (MoE, 1996). It also included the notion of pedagogical documentation that provokes teachers to reflect on their practice through the documentation of children's learning experiences in relation to the *Registered Teacher Criteria* (NZTC, 2010).

The e-portfolio platform chosen for this project was MyPortfolio, which was established by the Mahara project as a collaborative venture funded by New Zealand's Tertiary Education Commission's e-learning Collaborative Development Fund in 2006 (Mahara, 2012). MyPortfolio provides a learner centred environment that is both flexible and easy to navigate, and promotes the integration of digital media and online learning tools. The collaborative features within MyPortfolio supports strong engagement for an online community of learners. A critical component of the software is the ability to easily share e-portfolio pages to selected audiences and to receive feedback within a variety of forums. The MyPortfolio technology enabled the PRTs to develop autonomy and agency of their e-portfolios and aligned closely with the aims of the project.

## Literature Review

### Pedagogical Documentation

Pedagogical documentation and assessment of children's learning is a core component of teaching and learning in early childhood education (Felstiner, Kocher & Pelo, 2006; MoE, 1996). Pedagogical documentation is considered as a way of making learning (and teaching) processes visible to children, their families, teachers, and the broader teaching and learning community. This documentation of children's learning includes artifacts such as photographs and narratives that illustrate a particular experience, exemplars of children's work, video clips or transcripts of engagement. The inclusion of the teachers' reflective commentary and voice moves the documentation into a more purposeful and meaningful process. Rinaldi (1998) proposes that "[pedagogical] documentation makes it possible for teachers to sustain children's learning while they also learn (to teach) from the children's own learning" (p.120).

The focus on pedagogical documentation in early childhood education in New Zealand, has in part, been influenced by the pedagogy of the Reggio Emilia early childhood centres in Italy (Carr & Lee, 2012), alongside the early childhood assessment for learning exemplars *Kei Tua o te Pae* (MoE, 2004). Rinaldi (2006) emphasises the value of pedagogical documentation "as a tool for recalling; that is, as a possibility for reflection" (p.63). Millikan (2003) also claims that pedagogical documentation provides for many inherent possibilities such as "leading an inquiry forward, being a tool for children's own reflections, enabling parents to view and contribute to the process of children's learning, for teachers' professional development, and as an advocacy for children" (p. 102). The multifaceted nature of pedagogical documentation helps teachers to understand how young children learn and how they can respond in an intellectually engaged way. As part of this process teachers must ask themselves what image of the child is being portrayed through the documentation and what theories of teaching and learning the documentation may be implicitly reflecting. When pedagogical documentation is viewed in this way, it can cause teachers to more critically review their practice and the opportunities for enriching children's learning (and teachers' teaching).

A significant component of pedagogical documentation is the teacher's own reflective text or commentary. Gandini and Goldhaber (2001) believe the process of documentation can be catalyst for change causing early childhood teachers to see themselves differently thus, "expanding their identity from nurturer and caregiver to include theoretician and researcher" (p. 143-4). That said, without the addition of the teacher's "reflective commentary" the artifacts on their own, only tell some of the story (Felstiner, Kocher & Pelo, 2006, p.57). The documentation therefore serves the purpose of not only highlighting children's learning experiences but the underlying work of

teachers. Rinaldi (2006), sums up, “When you take a picture, or you make a document, in reality you don’t document the child but *your* knowledge, *your* concept, *your* idea (p.196).

## **E-portfolios**

Throughout the literature there are numerous definitions and descriptions of an educational e-portfolio. Themes about learner autonomy, reflection, and online collaboration are among the key benefits identified in the use of e-portfolios (Fox et al 2009). According to Banks (2004), e-portfolios are a place for students to reflect on their learning as well as a place to record and celebrate their achievements and goals. He advocates the potential for e-portfolios to re-purpose information so that it can be presented and shared to different audiences and transferred across different systems. Barrett (2011) promotes e-portfolios as a space to authentically voice stories, enabling learners to reflect on their personal learning journey, and to share their insights with chosen learning communities. JISC (2008) also describe the e-portfolio as learner driven in a space where students’ learning and achievements are demonstrated by a collection of artifacts. JISC (2008) acknowledge the learning journey that accompanies the creation of the product and highlight the importance of engagement and reflection as integral to the learning process.

An e-portfolio process enables learners to reflect at each stage of their learning. In particular learners must reflect carefully about their selection of individual artifacts, as well as on their e-portfolio learning journey (Barrett, 2011). A key component throughout the e-portfolio process is the sharing and engagement with others, whereby formative feedback from peers and mentors can take place within online communities of learners. DiBiase (2002) outlines an e-portfolio process that can be described in five key stages. Each stage is intertwined with the other and provides a framework for learners to progress through their e-portfolio journey. The stages include;

- Collection: teachers and students save artifacts that represent achievements in their learning and practice (i.e. reflections and assignments).
- Selection: teachers and students review and evaluate materials that are significant to their learning goal.
- Reflection: teachers and students provide reflective commentary on their selection of artifacts.
- Projection (or Direction): teachers and students review their current achievements or learning outcomes with key criteria.
- Presentation: teachers and students share their portfolios with teachers and peers to celebrate their learning.

The scope of e-portfolios in tertiary institutions has been more recently extended by the development of Web 2.0 technologies (Roder & Brown 2009). Tools such as blogs, discussions, wikis and RSS feeds have fuelled a significant increase in online social networking over the last five years. Strong collaboration and engagement amongst social networks spaces enable users to engage in creative and collective authorship (Shepherd & Skrabut 2011). Barrett (2011) explores the boundaries between e-portfolio development and social networking and acknowledges the large impact it is having both on our social and political world. She advocates the use of social networking with e-portfolios to increase students’ intrinsic motivation. Social networking tools are similar to e-portfolios in that they promote interactivity and collaboration through “connecting or “friending”, listening or reading posts, responding or commenting and sharing through linking or tagging” (p. 7).

## **E-portfolio Project**

This section provides a descriptive overview of the theoretical framework and e-portfolio approach that was developed for a cohort of early childhood provisionally registered teachers (PRTs). The approach and processes described have been drawn directly from the documentation provided for the implementation of the PRTs e-portfolio project. A research study will follow to capture the teacher’s experiences and depth of e-portfolio engagement throughout the registration process.

## **Theoretical Framework**

The development of a theoretical framework prior to the implementation of the e-portfolio was an essential component to the e-portfolio approach. In the absence of a clear understanding of this framework by teachers, the e-portfolio risked becoming a repository of information, rather than a rich narrative of the teacher’s pedagogical research. Orland-Barak’s (2005), e-portfolio research, cautions against the popular view that, “the mere construction

of a portfolio automatically yields critical levels of reflection on action” (p.41). Therefore, a strong framework was needed to equip teachers to investigate their learning with a greater sense of purpose and value in the e-portfolio reflective process.

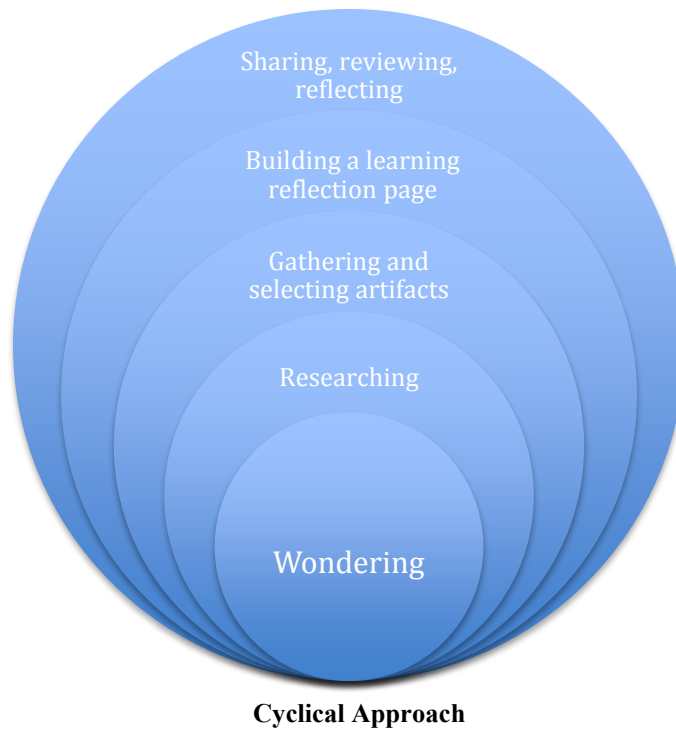
Underpinning the framework is the early childhood curriculum *Te Whāriki* (MoE, 1996). There are four foundation principles within *Te Whāriki* (MoE, 1996) that provide valuable reference points for teachers when engaging in the e-portfolio process. The interwoven nature of these principles is likened as a whāriki, or mat, whereby each early childhood context weaves their own distinct patterns of curriculum creating a unique and contextualised interpretation. *Empowerment-Whakamana* advocates for early childhood education services that enable young children to develop a sense of self-worth and identity. *Holistic Development-Kotahitanga* provides a model of learning that brings together all aspects of the child and their experiences. *Family and Community -Whanāu Tangata* emphasises the importance of the integral role that family and community play in early childhood education and in young children’s learning. *Relationships-Ngā Hononga* promotes learning environments where responsive and reciprocal relationships with people, places, and things are established (MoE, 1996).

A critical goal of the *Registered Teacher Criteria* (NZTC, 2010) for all teachers regardless of the sector, is to provide an “aspirational framework of continued professional learning and development that will impact on the learning outcomes of children” (p. 2). The criteria outlines, four overarching statements that guide and inform the criteria themselves and underpin the professional dimensions and indicators. This document is designed as a description of the criteria and to provoke professional dialogue between teachers and mentors.

Central to the theoretical framework was the notion of pedagogical documentation that enabled teachers to reflect on their own practice through the documentation of children’s learning experiences (Rinaldi, 2006). Although the primary purpose of the documentation is the child’s learning, inextricably intertwined within this process is the ability of the same documentation to reflect the quality and nature of the teaching and learning relationship. Rinaldi (1998) proposes that “[Pedagogical] Documentation makes it possible for teachers to sustain children’s learning while they also learn (to teach) from the children’s own learning” (p.120). Teachers may ask themselves questions such as; what image of the child is being portrayed through their e-portfolio? What do the artifacts selected say about their values and beliefs about teaching and learning? How might their e-portfolios inform them to more critically review their practice? Through this process of developing and reflecting on their e-portfolio the teacher’s documentation can be a catalyst for change causing early childhood teachers to see themselves differently thus, “expanding their identity from nurturer and caregiver to include theoretician and researcher” (Gandini and Goldhaber, 2001, p. 143-4).

## **A Cyclical Approach**

A cyclical approach was required to ensure an active and dynamic, reciprocal process that was responsive and reflective, provoking further opportunities (and wonderings) for teaching and learning. Positioning teachers as researchers was a critical component to the cyclical approach. Teachers were encouraged to employ principles of action research that supported a collaborative approach to learning, through actively enquiring, reflecting and co-constructing new knowledge in a cyclical nature (Milton-Brkich, Shumbera & Beran, 2010). This process allows teachers to research in an iterative way, engendering a spiral approach of new learning and new action generation. Punch (2005) considers that “the spiral of cycles of self-reflection, involving planning, acting and observing, reflecting, re-planning and so on, has become a dominant feature of action research as an approach” (p 162). The processes outlined below support teachers to define and refine their evolving understandings rather than as a linear formula to follow.



**Figure 1: Processes to developing an e-portfolio through a cyclical approach**

*Wondering*

Developing a wondering is the first critical stage in articulating an interest for further action research (Dana and Yendol-Hoppey, 2009). The concept of a wondering aligns with the early childhood education assessment for learning process of “noticing, recognising and responding”, whereby teachers search, in collaboration with children for possible directions and opportunities for teaching and learning, in response to children’s interests (Ministry of Education, 2004, p. 6). In this initial stage, teachers are encouraged to notice, recognise and respond to a teaching and learning moment(s) that has captured or provoked their thinking. The wondering provides a guide for the PRTs to focus their research on a particular area of intrinsic interest. It is carried out in collaboration with a mentor and in the context of their early childhood centre. An exemplar of a wondering description called Making Learning Visible through Visual Art was provided to PRTs as outlined below.

My wondering began when my conversations with a child were significantly enriched through her visual artwork. I began to realise that through visual arts children could articulate their own stories and working theories more deeply - making their learning visible. I wondered how often as teachers we in avertedly privilege the verbal and pay lip service to other forms of communication, missing or not hearing the many languages children use to communicate with. In this learning reflection page I am seeking ways to understand how in my practice I can incorporate visual arts more effectively as a means for children to tell their stories and express and represent their own understandings of their worlds, enabling me to listen more closely through these different visual mediums.

*Researching*

A key component for teachers researching their area of interest is the analysis of documentation of children’s learning experiences in order to capture their own pedagogical understandings in their research. The creation and examination of documents allows teachers to investigate in greater depth, promoting meaningful reflection and evaluation of authentic learning experiences. Through the lens of their wondering, teachers undertake critical conversations with their peers and mentors, seek professional learning opportunities and source literature to inform their research. The documentation from their research becomes artifacts that can be selected for the teachers’

learning reflection page. Examples of artifacts may include;

- Critique of significant literature
- Learning stories (individual or group)
- Reflection or journal entry (i.e. a parent or whanau meeting, professional learning events, mentor meeting)
- Sequence of photos showing children's learning experiences
- Links to relevant websites and resources
- Photos of a resource identified at another centre
- An audio recording of a dialogue between children / teachers
- A video of children's engagement with the environment (i.e. a nature walk)
- Parents feedback on their child's portfolio

#### *Gathering and selecting artifacts*

When early childhood teachers make decisions about what to include or highlight in a learning story, they use their own pedagogical understandings to inform their selections. The same premise applies for teachers selecting artifacts for their e-portfolios - deliberate decisions about selection are based on teaching understandings and reflection on individual learning journeys. Teachers must carefully reflect on their chosen artifacts to critically review their practice, and enrich the opportunities for children's learning (and teachers' teaching). Throughout the process of selection, teachers may ask themselves the following questions;

- What concept or idea does this artifact reflect?
- What is the purpose or significance of this artifact for my (and children's) teaching and learning?
- How does this artifact reflect a competent and confident image of children?
- Does this artifact reflect a critically reflective teacher?
- In what way does this artifact develop my understandings in relation to my wondering?

#### *Building a learning reflection page*

An e-portfolio is made up of a number of learning reflection pages that are developed throughout the registration period. Each learning reflection page is built over time and involves drawing upon significant learning experiences to illustrate a deeper and more developed pedagogical understanding. The building process enables teachers to continually critique and refine the content and understand the overarching sense and meaning the page may reflect. It also engenders opportunities for the teachers to revisit their professional practice and engage in deeper meaning making of these significant experiences.


The building stage is both a creative and reflective conceptual process that requires the learner to draw their individual artifacts and reflective commentaries together as a cohesive entity through the lens of their wondering. While teachers continue to make careful decisions around their selection and placement of their artifacts, a pivotal component of their page, are the *reflective commentaries* that are written to accompany their artifacts. These personal reflections provide a further layer for teachers to make their learning (and teaching) processes visible and through their own *voice* demonstrate both the complexities and depth of their learning, in relation to the *Registered Teacher Criteria* (NZTC, 2010). Without the addition of the teacher's reflective commentary, the significance and purpose of the artifacts are often lost. The following example of a reflective commentary was provided to the PRTs.

I selected these artifacts [teachers observation, sequence of photos, parents voice], as they show my deepening understanding of what it means to 'listen' more closely to children. Previously I thought I was listening to children but was I really 'hearing' what children were saying? Did my own underlying or hidden agenda channel the children's ideas and perspectives into directions I valued and preferred, rather than being open to the different views and ways of being and seeing, children present? Listening involves hearing and responding to the "hundred languages" children use to communicate and express themselves as they engage with people, places and things (Rinaldi, 2006, p.60). I have a professional responsibility to understand the complex social and cultural influences that impact on teaching and learning thereby being able to interpret the unique ways children make their thinking visible (NZTC, 2010). This is an ongoing area of practice that I need to continue to strengthen and explore as I continue my professional journey.

## Learning Reflection Page in MyPortfolio

**Page Elements**

- Wondering Title
- Wondering Description
- Artifact 1: Learning Story
- Artifact 2: Observation
- Artifact 3: Parents Voice
- Artifact 4: Sequence of Photos
- Artifact 5: Video Clip
- Artifact 6: Critique of Literature
- Reflective Commentaries



**Figure 2: Example of a Learning Reflection Page showing a variety of artifacts and reflective commentaries**

### *Sharing, Reviewing and Reflecting*

Peer formative feedback occurs throughout the e-portfolio process and is a critical component in promoting greater collaboration, reflection and co-construction amongst a community of learners. Collectively through their inquiry process and engaging with each other, teachers become “active participants in making meaning, and to see learning as initiated by understanding” (Aulls & Shore, 2008, p. 93). New perspectives offer renewed knowledge and can help teachers see what is sometimes familiar and obvious, from a different slant (Filippini, 1998).

A final presentation before a chosen audience is encouraged as a way to celebrate the teachers learning journey and accomplishments within their wondering. Teachers draw upon their e-portfolios to demonstrate their learning by providing authentic learning examples that have developed from their professional practice. Barrett (2011) describes the importance of the presentation as a public commitment, not only to receive meaningful feedback from colleagues, but also to provide motivation for learners to carry out their portfolios.

Mentors also work alongside the PRTs to provide support and guidance throughout the process. At the completion of each learning reflection page the mentor reviews the selected artifacts and reflective commentaries with the teacher. Teachers must be able to articulate and demonstrate, through selected artifacts, the links between their learning and the *Registered Teacher Criteria*. Critical conversations are required to ensure that the registering teacher receives formal and documented feedback on their professional practice, which also enables valuable feed forward for planning the next learning reflection page and further directions for practice.

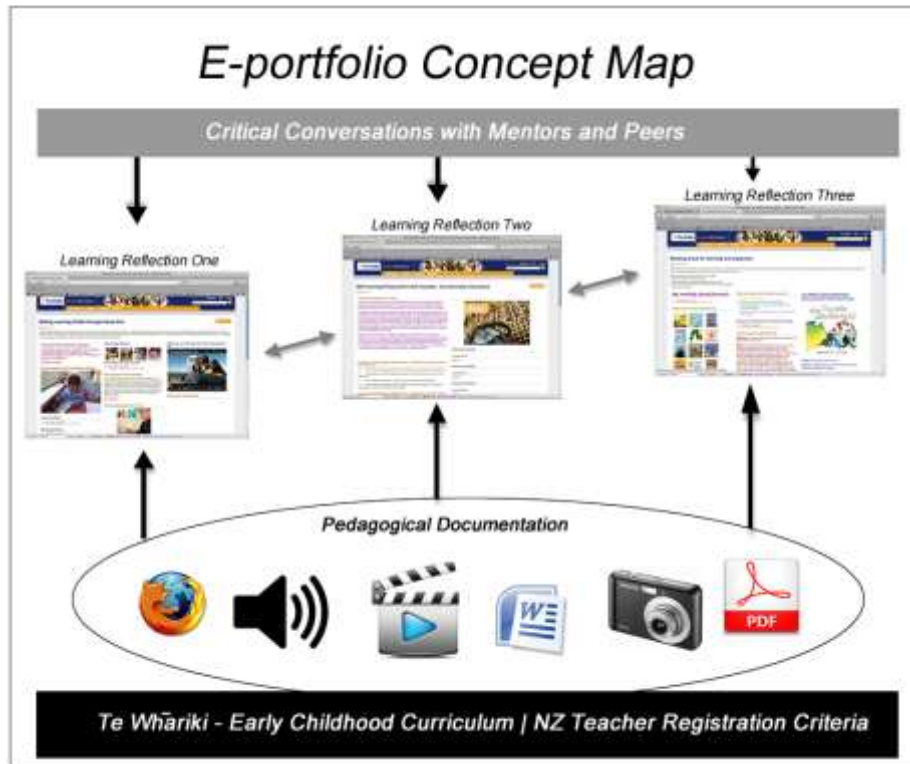


Figure 3: A concept map illustrating the components in developing an e-portfolio

## Conclusion

The use of e-portfolios is an effective tool to enhance teachers' professional learning and to attest to the requirements of the NZ *Registered Teacher Criteria*. This project drew upon key principles from the early childhood curriculum *Te Whāriki* (Ministry of Education, 1996), pedagogical documentation, and e-portfolio best practice. It sought to foreground an e-portfolio theoretical framework and approach created for a group of early childhood PRTs. The approach was developed to promote the use of e-portfolios in a more sustained and meaningful way, enabling teachers to continue its use for their future professional practice beyond the registration process. This was critical in supporting teachers to reflect and critique on their professional practice, and to develop greater learning connections and pedagogical understandings over time.

The e-portfolio approach outlined in this paper has placed greater emphasis on the *process* of creating an e-portfolio rather than the final *product*. However, it is the learning process that enables teachers to demonstrate a deeper level of thinking and learning in their product. Through the careful selection of significant artifacts, the reflective commentaries and critical conversations, links to the *Registered Teacher Criteria* (NZTC, 2010) become inherent in the e-portfolio product. Teachers engage in a journey to further their professional growth and gain new understandings about teaching and learning, rather than centering on a compliance model to meet specific standards.

To conclude, e-portfolios offer teachers the opportunity to take their learning into the future. When teachers engage in experiences that have meaning, and provoke further inquiry, they are more likely to sustain that engagement long term. The ultimate aim for teachers, when engaging in the e-portfolio process, is to improve professional practice and the educational experiences and outcomes for children. The creation of thoughtfully constructed e-portfolios provide PRTs a unique opportunity to "listen again, to see again, and therefore to re-visit the experiences of children" (Filippini, 1998, p.132).



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