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ePortfolios – Celebrating Learning

New Zealand – Ministry of Education

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Contents

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Executive summary

The term 'portfolio' has been in use in New Zealand schools for many years. Evidence shows that there are a wide range of uses and views on its purpose and place in schools. With the advent of digital technologies the references increasingly turn to the phrase ePortfolio, and deliver digital representations in various guises, depending on the purpose for delivery. With the advent of Web 2.0 the tools and systems built for these purposes are now numerous. It was recognised that the use of ePortfolios in New Zealand is varied, and there was a need to determine what kind of support, if any, was needed as access to technologies increases and teachers are more familiar and confident in their use.

The purpose of this report was to discuss the place and use of electronic portfolios, ePortfolios, within the context of New Zealand schools, particularly the early primary years to senior secondary colleges.

Research conducted was via educational online community discussions and where practical visits to a range of primary, intermediate and secondary schools. Common themes developed and the focus for the purpose and process of using ePortfolios was on understandings, purpose, teacher capability, ownership and duty of care.

Case studies identified many common themes, most importantly, where schools are genuinely committed to the development of '*confident, connected, actively involved life-long learners'* (MoE 2007), an ePortfolio is likely to be an integral part of the journey towards that goal. It will assist with the development of key competency skills and provide evidence of a student's growing development in a range of curriculum areas. It will assist teachers personalise learning and better prepare students with the skills required to thrive in this knowledge age. It will engage students in their learning and show that schooling can be relevant to their 21st century lives.

From a technical perspective the researchers explored the varied technical issues facing the schools and formed an understanding for a set of requirements and criteria for ePortfolio implementation. In order to answer a key question posed to inform discussion for future support in ePortfolio use in New Zealand schools.

Should the Ministry support and encourage the use of only one tool nationally (for reasons of efficiency, user familiarity, access through schooling, learner ownership, etc) and integrate other tools (e.g. LMS) into the one ePortfolio tool, or should we stay out of the tool selection and focus on portfolio interoperability standards so it is technically possible to move portfolios between different tools?

Key considerations discussed included:

1   What are the important features of a platform to support ePortfolios for NZ education?

2   Is it possible for one system to accommodate the entire spectrum of requirements across the education sector?

3   How important is interoperability of ePortfolio data?

4   What are the key criteria for selecting a system?

As in many areas of ICT for education there is a trade-off between standardisation and variety. The strategy that makes most sense where this occurs is to standardise the schemas for data transport rather than standardising the technology environment itself. However in some instances it is also helpful to provide a base platform to allow all schools to participate regardless of their funding or technology support environment within the school.

The team would like to acknowledge the group of Principals, teachers and students who willingly gave up their time to discuss, demonstrate and celebrate their 'digital' journey.

Part I	The purpose and process of using ePortfolios in education

1 Background

This paper will discuss the place of electronic portfolios, ePortfolios, within the context of New Zealand schools. It has been commissioned by the Ministry of Education to inform discussion and decisions as to how the Ministry may proceed in support of future ePortfolio developments.

> *Should the Ministry support and encourage the use of only one tool nationally (for reasons of efficiency, user familiarity, access through schooling, learner ownership, etc) and integrate other tools (e.g. LMS) into the one ePortfolio tool, or should we stay out of the tool selection and focus on portfolio interoperability standards so it is technically possible to move portfolios between different tools?*
>
> *Paul Seiler (2009)*

It will explore the place of ePortfolios in schools from early primary years through to students in senior secondary schools. A range of views will be presented with respect to the place of ePortfolios in the school environment demonstrating how a number of schools currently use available technologies in innovative ways to benefit student learning.

2 The current situation

The European Institute for E-Learning, (EIfEL) actively promotes the use of an ePortfolio as a key foundation for a learning economy and society. EIfEL's belief is that every individual should maintain their own ePortfolio to demonstrate and celebrate their achievements over time.

Serge Ravet, Chief Executive of EIfEL, and Vice-President of the European Foundation for Quality in E-Learning (EFQUEL) states:-

> *The worldwide emergence of the ePortfolio is transforming our current views on learning technologies. For the first time in the relatively short history of learning technologies we are seeing the rise of a new generation of tools dedicated to valuing and celebrating the achievements of the individual, from nursery school to lifelong and life wide learning, a technology providing a key link for individual, organisational as well as community learning (e.g. communities of practice, learning regions and cities). While some countries and regions are already providing the infrastructure required to offer ePortfolio access to all citizens, other regions and countries are considering it, and others have yet to discover its possibilities.*
>
> *Serge Ravet (2009)*

MOSEP, More Self Esteem with my ePortfolio, another European project, seeks solutions to the increasing numbers of 14 to 16 year old adolescents dropping out of the formal education system at such an early age. MOSEP actively encourages the use of electronic learning more specifically the use of ePortfolios to promote increased learner-centred and personalised teaching. Through the technology associated with

the construction of ePortfolios students become more engaged in their learning. Learning becomes more meaningful providing increased opportunities to demonstrate and celebrate achievements. The ePortfolio encourages, motivates and empowers students, providing them with skills required to succeed in today's knowledge economy.

Increasingly, reference is being made to ePortfolios in the New Zealand context. This is evidenced by the greater interest being shown towards ePortfolio workshops at conferences and through discussions in online learning networks where increasing numbers of questions are being posed with solutions to problems sought. A number of schools are actively working towards the implementation of an ePortfolio process, solving problems as they arise. It is expected this interest will grow rapidly as access to technologies increases and teachers become more familiar with the technologies available in classrooms.

The word 'portfolio' has been in use in schools for many years. It is evident a diverse range of views exists around its purpose and its place in schools. Increasingly students of all ages have been required to have some form of portfolio. They are a regular feature in most early childhood institutions. Secondary students have maintained portfolios in specific curriculum areas for a considerable period of time, particularly in an area such as art or design. These have been developed primarily for assessment or as a record of achievement. In more recent years many primary schools have been using student portfolios as a means of showcasing best work or demonstrating achievement against a set of curriculum objectives.

One institution's understanding of a portfolio will differ considerably from that of another. For some a portfolio is simply a folder or collection of work showing task completion. Others see it as a selection of completed tasks for display as in a 'showcase' portfolio. Many schools maintain portfolios for assessment purposes with collections of learning and assessment tasks, while others gather together a record of achievement to show prospective employers what has been achieved through examples of that achievement.

These are all valid and appropriate purposes. What is evident is that there is no one correct model. There are many differing portfolio models and many differing reasons for students to keep a portfolio. There will be elements common to all at differing stages of schooling, in addition to differences at various stages of learning. What is appropriate for a student in their early years will be quite different from requirements in senior secondary schooling. There will be different audiences for differing schooling levels. The close involvement of a parent at the primary level may differ as students move through secondary school. The closed or open nature of the web-environment will vary with ePortfolios as students mature and become more familiar with internet safety protocols and procedures. Evidence of course completion for students when entering employment will differ greatly from the requirements of a younger student wishing to demonstrate a learning journey.

Schools introducing ePortfolios will need to consider the purpose, appropriate to the age and developmental stage of their students. More will be said with respect to purpose at a later stage.

3 What is an ePortfolio?

In simple terms one could describe a 'paper' portfolio as being two-dimensional with the 'e' version being three-dimensional. A 'paper' portfolio contains examples of student work, selected, collected and stored in a folder or file. Learning goals are often set with reflections and teacher feedback frequently attached. These collections provide a clear picture of a student's growing competence in areas included.

An ePortfolio can do this and more. Banks refers to ePortfolios as:

> *"An e-portfolio is an electronic format for learners to record their work, their achievements and their goals, to reflect on their learning, and to share and be supported in this. It enables learners to represent the information in different formats and to take the information with them as they move between institutions."*
>
> *(Banks, 2004. p.3)*

Banks' definition refers to ePortfolios as being a record of student work including achievements, goals and reflections. Students present work in a variety of different formats. This is the 'three dimensional' component referred to earlier where ePortfolios enable work to be presented through images, both still and movie, as well as audio and a host of Web 2.0 tools in addition to the standard written records traditionally kept within the 'paper' portfolio.

With the ePortfolio being web-based anytime/anywhere learning becomes a reality. Students have the opportunity to access work from home, from school, or from any place where an online computer is accessible. This enables a high degree of technological literacy to be developed.

Banks' definition refers to the opportunity an ePortfolio provides for students to transfer work from one school to another. This is significant in terms of ownership. Ownership must rest with the author, the student, and as such should move with them when they change schools. With current ePortfolio solutions this is an area of concern. An ePortfolio with interoperability between systems is essential in maintaining ownership integrity.

Dr Helen Barrett, (Barrett, 2005), an acknowledged expert in the field of ePortfolios, defines ePortfolios as:

> *"An electronic portfolio uses technologies as the container, allowing students/teachers to collect and organise artifacts in many media types, (audio, video, graphic, text); and using hypertext links to organise the material, connecting evidence to appropriate outcomes, goals or standards."*
>
> *(Barrett, 2005. P.5.)*

Barrett clearly identifies several key components of an ePortfolio, emphasising the value of hyper-linking to available evidence. Barrett provides guidelines as to how electronic portfolios differ from the more traditional portfolio processes through the use of technology with traditional portfolio processes including collecting, selecting, reflecting, projecting and celebrating. The addition of technology also allows for archiving, linking and thinking, storytelling, collaborating and publishing.

In its simplest form an ePortfolio allows existing learning of all media types to be pulled together into one convenient location with ease of accessibility through hyperlinking to available evidence. This evidence is not simply the completed work, but more significantly, the rationale for the inclusion of this work within the ePortfolio. Barrett (2005) states it is the:

"accompanying rationale that the learner provides: their argument as to why these artefacts constitute evidence of achieving specific goals, outcomes or standards"

(Barrett, 2005)

4   Why keep an ePortfolio?

It would be more common for those using ePortfolios to maintain them as repositories for quality work, providing an online showcase. These provide a visual record of course or work completion illustrating the author's ability levels in one or more curriculum areas. With senior secondary students such an ePortfolio could be used with prospective employers to display examples of the author's work standards in the field of interest. For young children the ePortfolio allows parental access to their child's work on line, whenever they choose to log on, to view progress.

Although the above would be the more common situation, there are many differing models currently in use in schools. Some use ePortfolios for accountability or as a repository for data showing progress and achievements for an external audience. Others are to track a learning journey, showing process as well as a completed 'product,' along with student goal-setting and reflection. In other situations ePortfolios have been developed out of need as a 'container' to store and provide easy access to the greater range of digital objects produced. This is often the case where teachers discover increased student engagement through the use of these technologies with many digital objects being produced as an outcome of course work.

There are many reasons for keeping an ePortfolio. Each is equally valid and a strong case could be presented for a wide range of differing views. The key issue is purpose. What is the purpose of the ePortfolio? What do schools want it to be used for? How does it fit with the school's pedagogical vision and values? Each school will need to determine answers to these questions relative to their own pedagogical goals prior to proceeding.

Dr Barrett states:

> *"The first question to ask is not about what tool to use, but rather: 'What is your purpose for having your students develop an e-portfolio?' A clear description of the purpose should then drive the selection of appropriate tools. [Yes, plural... integrate multiple tools into the process.] 'Do you want a student-centered ePortfolio that is the student's story of their own learning, or do you want a system to collect data about student achievement for an external audience (accreditation, accountability)?' These are the extreme ends along a continuum, but also the major debate in the field today. In my opinion, if you say you want to do both, then pick two different tools, because when these two functions are combined within the same system, data collection/management tends to depress creativity and personal expression in student portfolios."*

> *(Barrett 2009)*

A well-constructed ePortfolio serves many different purposes. Hartnell-Young, et al (2007, cited in JISC 2008), in discussing the concept of purpose, state that purpose may well change over time depending on the age of the student and their particular needs at that time. It may be appropriate to use an ePortfolio to track a learning journey, to demonstrate outcomes of learning possibly for assessment purposes or to guide future learning needs. The purpose may well change later in schooling when the ePortfolio is to be used for a job interview or for seeking registration with a professional body. Purpose relates to student need and to what is important to their requirements at a particular point in time, providing deeper understandings as to their abilities, competencies and future plans and goals.

Hartnell-Young et al identify three key areas for ePortfolio development:

1   for different purposes:

   o   celebrating learning

   o   personal planning

   o   transition/entry to courses

   o   employment applications

   o   professional registration

2   to support processes:

   o   capturing and storing evidence

   o   reflecting

   o   giving and receiving feedback

   o   planning and setting goals

   o   collaborating

   o   presenting to an audience

3   as a repository:

   o   the spaces (local or remote) to store resources and an archive of evidence.

To the above list could be added, '*Using the ePortfolio to track a learning journey.*' This requires more than simply celebrating the outcomes of learning. It requires the learning journey to be tracked from initial decision making through to work completion. This allows for a greater degree of formative assessment to improve future learning outcomes rather than simply a summative assessment statement. Most current ePortfolio models focus primarily on completed work thus missing key formative learning opportunities.

Where students reflect on their own learning processes and receive appropriate feedback they become increasingly able to determine their own future learning goals. Deep and meaningful reflection is a key component of successful ePortfolio models. This occurs where students have the opportunity to think critically about their work and to speak openly about their progress in a secure environment. Critical reflection helps personalise learning, encouraging students to question, to challenge and to celebrate successes. It encourages students to review their progress over time and to look more

critically at their own role in the learning process. Students become more empowered, exercising greater control over their own learning and gain a greater understanding as to their growing development as learners. Reflection helps them make connections between different elements of their learning. It assists students move from e-learning to me-learning, growing independent, confident learners who understand that learning is something *they do*; it is not something that others *do to them*. (Fox. 2008).

Enabling the 21st Century Learner (Ministry of Education, 2006) states clearly in its ICT strategic framework for education, its vision is '*To improve learner achievement in an innovative education sector, fully connected and supported by the smart use of ICT.*' As new technologies become more accessible their use increases. The key is to determine how best to use these technologies in schools to support learning. Technology is not an end in itself but should be seen as a means towards an end, with that end being improved learning outcomes for students of all ages.

'Let's Talk About Personalised Learning' (Ministry of Education, 2007), acknowledges the transformation of New Zealand into a knowledge society. It discusses ways in which our schools should recognise and respond to these changes with the emphasis on a greater degree of personalised learning. The primary focus is to have students develop 21st century skills to ensure each has the opportunity to reach their full potential through the development of life-long learning skills.

Much has been written as to what these 21st century skills should be. The North Central Regional Educational Laboratory (NCREL) published a list of skills '*enGauge 21st Century Skills: Literacy in the Digital Age.*' (NCREL, 2003) They suggest digital-age literacy, inventive thinking, effective communication and high productivity as the four key areas required for future success. Apart from the basic areas of literacy and numeracy, skills also recognised as essential include information, technological and visual literacies. Students should develop understandings as to how technology can be used effectively to achieve their goals while advancing their ability in thinking, decision-making, communication and learning.

NCREL acknowledges the importance of students becoming self-directed learners with the ability to set goals related to their learning, to plan for the achievement of goals set, and to independently manage their time and effort towards successful task completion thus achieving success. Students should subsequently be capable of reflecting on their learning experiences and determining the next steps required to move forward. When they have developed these skills they are well on the way to becoming independent, self-directed learners. The New Zealand Curriculum document seeks similar goals.

A well-structured ePortfolio used for a range of differing yet complementary purposes, does much to assist the growing development of learners in this digital age. It supports growth in a range of 21st century digital-age literacy skills. It helps develop technological and visual literacies, along with inventive thinking and risk-taking. It supports team-work and collaborative skills. It assists with the integration of the New Zealand Curriculum Key Competencies across subject areas providing clear evidence of the student's growing development in each competency.

Using available technologies does much to engage students in their learning and have them understand that the technologies with which they are often very familiar in their out of school learning explorations can be widely used to support their learning at

school. For those 'at risk' learners, often in their early teen years where many find schooling irrelevant to their daily lives, an ePortfolio can be just such a 'catalyst' for motivation and engagement. Students can use their often highly developed 21st century skills to benefit their own learning in authentic and engaging contexts.

One powerful component of an ePortfolio is that which Helen Barrett calls 'student voice.' Barrett (2006) discusses the power of voice and how ePortfolios can encourage that voice to come through and be heard. Barrett describes student voice as:

> *"The Voice is the writer coming through the words, the sense that a real person is speaking to us and cares about the message. It is the heart and soul of the writing, the magic, the wit, the feeling, the life and breath. When the writer is engaged personally with the topic, he/she imparts a personal tone and flavour to the piece that is unmistakably his/hers alone. And it is that individual something–different from the mark of all other writers–that we call voice.*

> *(Barrett, 2006, p.1.)*

The three-dimensional element of the ePortfolio allows for this voice particularly when audio or image files are attached. The wide range of Web 2.0 tools available allow students to attached audio files with images demonstrating process towards task completion. The power is in the tracking of the learning journey. Process as well as product can be clearly presented using a simple digital story-telling technique.

4.1 ePortfolios with 'student voice'

The following demonstrates ways by which an ePortfolio can track a learning journey with opportunities for 'student voice' to be heard.

- recording learning goals
  - o either in written form or on an audio file such as voice thread, garage band, audacity, etc, embedded into the ePortfolio

- providing evidence of the learning process
  - o A simple blog or a wiki can track this journey through a daily journal from brainstorming and decision-making to the finished product.

- providing evidence of learning
  - o As with all portfolios it is important for students to be engaged in reflecting on their progress as learners. A digital story with attached images either still, slide show or video, with a voice-over file could be used to help viewers understand the processes followed. This is particularly powerful in that viewers can see the learning process while also listening to the author in their own voice, explaining their learning journey. This clearly demonstrates the power of 'student voice.'

- allowing for metacognitive development
  - o Reflections are significant in helping students think about their own learning. They could be in written form or attached with a link to a Web 2.0 tool allowing for the 'voice' to be heard.

- providing opportunities for teacher feedback and feedforward
  - o Through the digital nature of ePortfolios teachers have the opportunity to provide feedback and feedforward in differing ways. This could be in the traditional written manner. More empowering would be recording a learning conversation between the teacher and student together discussing the learning and outcomes achieved. With Web 2.0 tools these conversations can be embedded into ePortfolios allowing students to reflect on the discussion, to review their work, and to determine possible future steps. These learning conversations are far more empowering with greater impact on future learning when shared and worked on together.

- providing opportunities for parents to better access student work
  - o Being web-based, parents can view (with the student's permission) learning goals and learning journeys to see competed work and to listen to learning conversations between teacher and student.

A number of schools are currently working toward just such an approach.

5   The New Zealand situation

It is timely to be having discussions with respect to the place of an ePortfolio within the New Zealand learning environment. To educate students who will not only survive, but thrive in the rapidly growing global community, schools must now build these 21st century skills into class programmes to assist with the development of "*confident, connected, actively involved, lifelong learners*" (Ministry of Education, 2007, p.7).

Currently there are diverse views with respect to ePortfolio use in schools. It is evident there is a growing level of interest yet there are few with well-developed ePortfolio structures in place. There are even fewer using an ePortfolio in a manner to demonstrate and celebrate the learning process, or as is being encouraged through the MOSEP project, using an ePortfolio to promote a greater degree of learner-centred personalised teaching.

Where innovative programmes exist most are dependent on enthusiastic teachers with the knowledge and ability to provide structures for ePortfolio development. In general these are in use within a small sector of the school. Very few have strong practices school wide. Barriers to progress are quite significant with tools currently available, hence the reluctance for many to move forward to a whole-school approach.

Some schools use an LMS to manage ePortfolios. This is more likely to be the situation where schools are working towards school-wide implementation. The LMS enables schools to determine ePortfolio structures according to their agreed goals and purposes. They enable data to be managed with teachers able to access individual student's work readily through a single sign-on, an essential requirement for busy teachers. .

Others are working in innovative ways with blogging and wiki sites. This tends to be more often the case with a teacher enthusiast encouraging students to share work using Web 2.0 tools. These tools provide a very sound introduction to the power of an ePortfolio for younger students. They allow for text, audio and visual files to be embedded with access to student work widely available. Difficulties arise when this approach is used more broadly owing to the lack of management structures.

Cost is a significant barrier for some schools. This is the case particularly where a school uses a small component of the total LMS for ePortfolio management yet require the whole package. An open source solution currently available is finding increasing favour. It provides a satisfactory solution for some, more particularly at the senior secondary level, where the ePortfolio is used to demonstrate course completion. For younger students the structure of this product does not allow sufficient flexibility to record more of the learning journey and the processes of learning desired.

It is evident in schools where ePortfolios are becoming well established a strong link exists between the ePortfolio and the school's pedagogical beliefs. Where schools have a clear understanding of purpose and have integrated the ePortfolio into the learning process, there is a much greater likelihood the implementation will be successful. This is clearly in line with BECTA research that found this to be a key factor towards successful ePortfolio implementation.

Studies conducted by the British Educational Communications and Technology Agency (BECTA 2007) indicate that ePortfolios have the greatest impact on learning when they are developed as key components of that learning, rather than being seen as something separate. Their studies show ePortfolios impact on learning for students with a wide range of ability levels where ICT curriculum outcomes are used in authentic contexts rather than as isolated skills. They also found that both progress and attainment become more visible to teachers and students where the collection of work within the ePortfolio is used to reflect and review identifying strengths and weakness, helping determine future learning pathways.

It is evident teacher capability in the use of Web 2.0 tools is a barrier to progress in many schools. Considerable professional development is required. Development is also required to enable teaching staff to gain a clearer understanding as to how the ePortfolio can be integrated into regular programmes, better engaging students in authentic learning opportunities and supporting the development of 21st century skills in line with the NZ Curriculum Document.

As for any new innovation schools are finding ways to overcome issues of teacher capability with a number requiring staff to keep some form of electronic portfolio, possibly tied to appraisal, enabling teachers to become more familiar with the tools in a practical yet purposeful manner.

Access to technology tools is a further and significant barrier for many. There is no simple solution to this issue as schools continue to grapple with funding issue priorities. With ePortfolios being web based it is possible for home computers to be used. This can be of assistance where students have this access. It will be difficult for wide spread ePortfolio implementation until issues of access are resolved.

Schools with well established ePortfolio structures are enthusiastic with current developments. Most have found their own solutions to problems as they arise in the belief that the ePortfolio now has a significant role in assisting students with their learning. They are passionate about the future of ePortfolios in their schools and very clear as to the rationale for their use. All have clearly defined purposes suiting the needs of students in their schools. Purposes differ in terms of student age and school pedagogy yet all can be clearly articulated.

In interviews held – see Appendix, Case studies – many positive features were identified including comments such as:

- "provides evidence of process, progress and product"

- "enables the learning journey to be tracked"

- "ensures students have opportunities to develop in 21st century skills"

- "enables technologies to be used in authentic contexts that more closely parallel what students are doing in their daily lives out of school"

- "engages students in their learning to a greater level".

Further comments relating to the individual case studies are included at the end of this report.

6   Getting Started

Schools considering the introduction of ePortfolios should address several key issues prior to proceeding.

6.1   Purpose

Is the ePortfolio to show the finished product of learning or the process of that learning journey? The answer to this question will determine the way in which the ePortfolio is constructed and managed. Discussions should centre on pedagogy rather than systems. Once the pedagogy is determined an appropriate system can then be sought to meet these pedagogical goals. What is the purpose?

6.2   Ownership

Does ownership rest with the school or with the student? If ownership is to rest with the student, what happens when the student is transferred to another class or school? How does the student take work with them? This raises significant issues with respect to interoperability. It is an area requiring urgent solutions.

6.3   'Duty of care'

How is the school to manage issues to do with internet safety when placing student work on the web? Are protocols are in place? These protocols will vary depending on the age of the student, access to broadband internet services, and many other factors. This is an issue each school must determine in consultation with its community.

6.4   Teacher capability

A real issue for many schools will be not the knowledge base of their students, but rather the knowledge base of their teaching staff. For many teachers the whole issue of digital learning and the use of Web 2.0 tools can be threatening. Much needs to be done to help overcome this problem. The identification of key personnel to support staff while also driving developments school wide will assist. Schools can also look towards talented students for support. There will be many who use Web 2.0 tools as a normal part of their everyday out of school lives. Their expertise is invaluable in helping schools move forward.

6.5   Time

Many teachers will see the introduction of ePortfolios as yet another task in an already busy schedule. It will be seen as another 'add-on' to fit into the programme. The ePortfolio should not be seen as something extra but rather as being central to the student's growing development across a range of curriculum areas. It is not a by-product of learning but is central to that learning. It should reflect the appropriate curriculum and be an integral part of this. It should be central to assisting with the development of the key competencies and provide evidence of each student's growing competence in these areas. The ePortfolio does not stand on its own but rather is a repository, demonstrating learning and the processes of that learning.

6.6 How to begin?

Simplicity is a good thing to remember. Start 'small' but think 'big.' There will be frustrations. As for any major change there will be difficulties and issues. These should be treated as challenges with the end goals being kept clearly in sight. It is easy to be discouraged when the server crashes or when access to computers is limited. It is important to reflect on the pedagogical purposes for having students keep ePortfolios and to 'keep the wagon wheels rolling westward.' Slow steady progress is the key to any major change.

6.7 Summary of getting started

Where schools are genuinely committed to the development of '*confident, connected, actively involved life-long learners'* (MoE 2007), an ePortfolio is likely to be an integral part of the journey towards that goal. It will assist with the development of key competency skills and provide evidence of a student's growing development in a range of curriculum areas. It will assist teachers personalise learning and better prepare students with the skills required to thrive in this knowledge age. It will engage students in their learning and show that schooling can be relevant to their 21st century lives.

> *"We are the last generation of teachers who will have a choice whether or not to use or not to use the new technologies in the classroom."*
>
> *(Nussbaum-Beach 2007)*

Instead of a focus on structures and systems more appropriate discussions should centre on pedagogy and how new technologies can best be used to support student learning. Such discussions will help drive future developments while allowing schools to determine the structure that best suit the needs of their students and their communities. ePortfolios are not about technology; they are about pedagogy and learning. They are about life-long learning.

Part II	Technical issues and requirements for ePortfolios

Part I of this paper discusses the purpose and process of using ePortfolios in education. What is immediately apparent is that the concept of ePortfolio covers a wide range of purposes across different schools and different age-groups. The underpinning philosophy of using the ePortfolio is closely allied to the teaching and learning context in which it is embedded.

In this Part II, the aim is to establish how purpose affects the design and deployment of ePortfolio technologies. Particular questions in which we are interested are:

5 What are the important features of a platform to support ePortfolios for NZ education?

6 Is it possible for one system to accommodate the entire spectrum of requirements across the education sector?

7 How important is interoperability of ePortfolio data?

8 What are the key criteria for selecting a system?

7 Outcomes from case studies

The case studies reported in the appendix to this report provide a variety of useful information in response to these questions. We interviewed staff members and students at a number schools which have actively adopted ePortfolios. Some of the key findings are summarised in the following.

7.1 *Technology platforms in use*

Schools have adopted a variety of different software solutions to support their ePortfolio innovations. One common approach is to use a blogging tool such as Blogger and WordPress MU. Helen Barrett frequently recommends the use of WordPress in her writings. Alternatively a Wiki platform such as Mediawiki or Wikispaces provides similar functionality, albeit with a slightly different focus on multi-author use rather than a single primary author.

Another common approach in the schools we visited was the use of a Learning Management System to provide the framework for ePortfolio development – in particular, the LMS provide all the user management, permissions and security controls for anyone who can view and edit pages while the ePortfolio is typically built out of templated web-pages in which Web 2.0 and rich media widgets can be embedded.

One question we asked interviewees was *what makes a good LMS system for this purpose?* The answers were:

- one that allowed a great deal of flexibility in the authoring of page templates (and allowed embedded rich media)

- one that made authoring and editing pages very simple

- one that provides a granular permissions structure.

However despite the fact that LMSs were being used for the purpose of supporting the ePortfolio implementation, it was more because that was the technology that the school was familiar with – and it had the appropriate user management features rather than it being an entirely satisfactory tool for the purpose.

When we asked what would provide the ideal technology environment for developing ePortfolios it was interesting to hear more than once the response "a wiki with a user database". This answer captures the value placed in a flexible, simple authoring framework with user management and permissions control functionality

These responses have important implications for the third class of ePortfolio tools in use in NZ – dedicated purpose-built ePortfolio software environments such as Mahara and ELGG. Of these Mahara was the most popular choice amongst the respondents we spoke to – after all it is a NZ initiative. Everyone we spoke to had had experience of using Mahara at least in trial-mode. For some interviewees Mahara represented an excellent tool for their context and purpose but for others it was felt that the software in its current form was too constraining or complicated for their students and teachers and that it could be improved significantly by offering a simpler interface as an option. These observations provide useful feedback for developers of ePortfolio systems and are examined in greater depth later in this report.

7.2 *Importance of Interoperability:*

Many of the interviewees noted a lack of adherence to a standard format for interoperability as one of the primary weaknesses in their current technology approach to ePortfolios, and all of them rated interoperability as one of the most important requirements for the eventual ongoing success of the approach. The reason is simple. The ePortfolio belongs to the student and every student will sooner or later leave their current institution and move elsewhere; the portfolio has to move with them. Other interviewees were clearly aware of what would happen if they wanted to change their ePortfolio environment – would all the work to date be lost? With an ICT initiative as young and organic in nature as ePortfolios, this is a very real concern.

7.3 *Sustainability*

In most instances that we investigated the driving force behind the ePortfolio initiative was one or two enthusiastic and knowledgeable people. Even in cases where use has migrated school-wide it still falls back on those key staff members to ensure continuity of the effort particularly to manipulate and maintain the technology. This raises the issue of on-site versus external hosting for ePortfolio technologies. Both have their advantages and disadvantages but off-site hosting which is not reliant on school staff for maintenance, is an attractive option. Part of a long-term national solution may involve hosting services. One such current scheme is the http://myportfolio.school.nz domain for Mahara users.

External hosting is not the only sustainability issue mentioned by interviewees. Open source software developments were felt by many to provide a much safer growth path for sustainable long-term solutions than proprietary systems. Although interestingly, many people were happy with the sorts of free tools provided by Google (e.g. Blogger, Flickr etc) which are not open-source.

7.4 Data Capture

Another question that arose was how do students capture or create the electronic material to put into the ePortfolio? Some material exists as paper-based resources and can be scanned or photographed for inclusion but the vast majority seems to be natively created as digital materials and increasingly use of rich media (audio and video) formats complement written materials and images. Using technology in this way requires good access to computers and other digital technologies as part of the learning environment.

One interesting question that arose related to the use of mobile devices (especially 3G mobile phones) for accessing and authoring the portfolio. Given the increase in use of such devices in the general population and the high profile being given to Telecom's new XT network it would make sense that these small portable web-enabled computing devices equipped with digital cameras and audio recording devices should become an integral part of the ICT computing environment in schools.

7.5 Summary of Case Studies

In summary the case studies we conducted provided the following valuable information:

- ePortfolio implementations vary considerably across different schools in terms of both purpose and implementation.

- Schools have adopted a variety of technologies as a platform for the ePortfolio. The main criteria for many are flexibility, simplicity and effective user management.

- Interoperability standards are seen as important and currently lacking in most implementations.

- Sustainability is a key issue.

- Teacher capability also remains an issue (hence the need for simplicity).

- Success of school wide implementation is dependant on the support and guidance of senior management

8 An ePortfolio architecture for New Zealand

The discussion so far highlights some of the important characteristics of an ePortfolio system in some NZ school contexts, but what kind of strategy is likely to be effective for the NZ schools sector as whole? Is this an area where the Ministry of Education should invest to ensure the continuity, transferability and interoperability of students' portfolios throughout their school career?

It is an interesting question. On the one hand New Zealand is a small enough country that it would seem sensible to put an ePortfolio solution in place at a national level so that the student can access, export and maintain it regardless of their current institution of study. On the other hand such is the diversity of ePortfolio approaches we have seen even in the small number of case studies reported here that a single national ePortfolio solution (whether in the form of a technical platform or a data structure or schema) would be too restrictive to accommodate the range of purposes.

As in many areas of ICT for education there is a trade-off between standardisation and variety. The strategy that makes most sense where this occurs is to standardise the schemas for data transport rather than standardising the technology environment itself. However in some instances it is also helpful to provide a base platform to allow all schools to participate regardless of their funding or technology support environment within the school.

A combination of elements of both approaches may be the best solution and is fully outlined in the recommendations for MoE – Section 11

9 Interoperability Standards: LEAP2A

Often in the field of interoperability standards for education there are several possible choices of standards developments and it is a difficult decision to decide which 'horse to back'. As far as ePortfolio specifications go in 2009, this is happily not the case. There are really only two possible alternatives:

1   The IMS ePortfolio specification

    o   built on IMS LIP (Learner Information Profiling), this is a complicated hierarchical specification which has seen little in the way of practical adoption

2   LEAP2A

    o   a relational Web 2.0-oriented specification based on ATOM that has more recently been developed to fix some of the problems with the IMS LIP approach of IMS ePortfolio (and LEAP).
         It has seen the input of key system creators (e.g. Mahara) and is now implemented by a number of major ePortfolio systems.

Of these alternatives LEAP2A is a clear front-runner and is the interoperability standard that should be supported in the NZ schools context. The history of LEAP2A development and current situation is neatly summed up in this recent article for ALT by

Simon Grant of CETIS in the UK:
http://newsletter.alt.ac.uk/e_article001402921.cfm?x=b11,0,w.

10 Initial criteria for selection of an NZ ePortfolio implementation for schools

The criteria should:

- be open source (sustainability)

- support LEAP2A interoperability standard (interoperability)

- have robust user management, IAM and permissions structure (interoperability with SMS?)

- be easy to use for staff, students of all ages and parents (simplicity and flexibility)

- have simple blank page options as well as more structured pages (flexibility)

- support Web 2.0 tools, widgets and rich media that can be embedded in pages (flexibility)

- have good integration with mobile devices for display, editing and data capture and input

- have a customisable Look and Feel for both institution and individual

- support accessibility guidelines for vision- and hearing-impaired students

- web-based with hosting options available.

The above criteria are not meant to be an exhaustive list but reflect the requirements established from the case studies reported here.

11 Initial recommendations for MoE

- If the MoE is considering a national ePortfolio interoperability specification then it should use the LEAP2A specification.

- If the MoE is considering a national base technical platform (or reference implementation) for ePortfolios then Mahara presents itself as an obvious candidate since it fulfils many of the criteria mentioned, in particlular, LEAP2A. However Mahara is not suitable in its current state for supporting the requirements of a number of schools, particularly with respect to simplicity and ease of use.
  In its current form it is felt that Mahara is more focussed at high school and tertiary rather than intermediate and below. The software is quite sophisticated in the multiple views it offers but lacks simple options where the more structured approach is not required (akin to the a 'wiki with a database' option mentioned in the case studies).

Therefore it is a recommendation of this report that the MoE

- Recommends and works with LEAP2A as an interoperability standard for ePortfolio implementations in the context of MLE. This may eventually lead to the specification being mandated as the interoperability format for ePortfolio data.

 AND:

- Supports (but not necessarily mandat3s) a reference implementation of an ePortfolio system or component for our work in MLE project. This ePortfolio system should be LEAP2A compliant, should be OpenSource and should meet the other requirements criteria outlined in this document.

- By following this strategy it is possible to combine the advantages of provision of a single national platform through the reference implementation (and it may be that all institutions in time decide to migrate to this platform because of all the advantages that offers). But at the same time it doesn't preclude any institution (or software vendor) from using or developing alternative ePortfolio components so long as they use the recommended LEAP2A specifications for interoperability.

Appendix – case studies

School A: An urban primary school with a school-wide implementation of ePortfolios
School B: A new urban secondary school
School D: A regional primary school with digital class implementation
School E: A large urban intermediate school with school-wide implementation
School F: A National Organisation for educational provision to Blind and Visually-Impaired students.

ePortfolios / LMS Software Applications

Knowledgenet
Mahara / Moodle
Ultranet
MyClasses

School A: An urban primary school with a school-wide implementation of ePortfolios

1   School Context and factors enabling ePortfolio implementation

School A is a cosmopolitan urban primary school comprising students of 42 nationalities of which around 100 are ESL students. The ESL students often don't feel comfortable about writing in English. There are a number of broad contextual factors which have helped to enable the move to a school-wide implementation of ePortfolios:

- A history of using paper portfolios for presentation of students work in combination with the student-led conferences.

- Wireless broadband connectivity across the whole school with computers situated in classrooms. This is a fairly recent change. They previously had a computer suite and made a conscious decision to break up the computer suite and have computers in the classrooms. There are 5-6 in each class of which 1-2 are desktops and the rest laptops. There is also a digital camera and data-projector in each classroom.

- The school had an LMS for 5 years but prior to the initiation of the ePortfolio project (which has been developed using the LMS platform) was little used. There is a neighbouring intermediate school which has pioneered the use of this particular LMS for supporting ePortfolios and school A has used that as a model for their own implementation.

- This is a lead school in an ICT PD cluster. As a consequence teacher-release has been obtained to support ICT developments. There is an able ICT advocate on the teaching staff who is driving the implementation of ePortfolios.

2   Overview of ePortfolio implementation

The use of ePortfolios at school A is school-wide and mandatory for both teachers and students. For teachers the purpose is not for appraisal purposes but to familiarise them with the technology and approach. They use it to support their IT goals. The purposes of the ePortfolio for students are numerous:

- evidence of assessment

- evidence of learning – not only summative but formative as well

- student reflections

- method of reporting to parents and sharing achievement between home and school. The ePortfolio is an ongoing reporting system throughout year parents can access at any time. Parents can comment in portfolio – real-time responding reducing feedback delay.

- reducing amount of work in making a pretty paper portfolio

- relates to students goals in an ongoing way.

The portfolio structure was designed to be in line with the New Zealand national standard for reporting. There are a set of template headings defining the following sections: Goals, Achievements, Key Competencies, Learning.

In the teacher's portfolio, there is an elearning goal, calendars, links to other things, enquiry papers, booking forms, staff notices, literacy and numeracy goals. As mentioned previously, the elearning goals are not tied to appraisal.

The approach to implementing ePortfolios school-wide was to get volunteers involved to start with. They invited teachers who were interested and 14 teachers responded which they felt was an extremely positive initial response.

3   Technical platform, interoperability and transferability

The ePortfolio is built on a structured template within the school LMS system allowing the embedding of Web 2.0 tools and environments within web-pages on the LMS. This has the advantage that the user management and access controls within the LMS can be used for the ePortfolio environment. This is a custom implementation which relies on the expertise of one of the teachers to support, so there remains something of a question-mark over the long term sustainability of this solution – especially if the teacher leaves the school.

At this stage there is no solution for the technical interoperability problem to allow students to transfer their portfolio to a new system or different school. This is an acknowledged concern.

4   Identified issues and benefits

One of the main challenges is the technical skill level of teachers. Also there is a tendency amongst some to view it merely as an extra task with dubious benefits. The school emphasised that for these to be overcome it must be embedded within teaching and learning practice, rather than viewed as something extra to do.

One of the key benefits mentioned was a more focused use of IT in learning and a more authentic context for the development of IT skills resulting in more computer literate staff and students. One teacher said in a survey:

"I have learned a lot over the past 6 months about exactly what ePortfolios are, including general computer knowledge and I admit I was seriously lacking and now I have moved up a notch and thankyou for all your help"

School B: A new urban secondary school

1 School context and factors enabling the move to ePortfolios

- School B is a senior secondary school. This is a new school in a large urban environment.

- Being a new school has helped mandate the change of behaviour to using ePortfolios. There has been a conscious decision to make sure each student has one.

- Teachers have a personal ePortfolio for appraisal.

- As a senior school term 4 is relatively free for teachers to work on their ePortfolios.

2 Overview of purpose and use of ePortfolios

The ePortfolios are:

- a means for students to showcase their learning and to share it with families

- for staff it supports the appraisal process and professional development showcasing.

The ePortfolio is an artefact in that it is not used directly for assessment – rather it is for students to reflect on their learning and to share it with others.

The ePortfolio mostly contains materials that are already digitally created (although some use the camera on their phone to photograph paper material). A variety of other paper documents may be scanned for inclusion in the ePortfolio.

Students work on their ePortfolios in tutorial periods and they work on them from home. They are not used with the subject teacher.

It is the social networking features of the ePortfolio tool (Mahara) which appeals to many students first and draws them to make greater use of the tool.

3 Technical platform for supporting ePortfolios, interoperability and transferability

The ePortfolio platform used is Mahara. The school makes extensive use of templates which provide a good starting point for students to then go on and elaborate their own designs. The school selected Mahara after an extensive selection procedure in which a variety of other tools were examined

The school sees interoperability as an issue they would like to resolve. It would be beneficial to pull in assessment data from the LMS.

4   Issues and benefits with ePortfolios

One of the main issues is getting staff familiar with how to use the system – although staff do not need to know everything – the tutorial videos with Mahara are excellent.

The main benefits are:

- control with the learner

- ongoing involvement with families

- social networking philosophy

- using the tools that students are familiar with

- provides a vehicle for reflection

- dedicating tutorial time to reflection

- focus conversation with tutor

- prioritising areas to work on

- opportunity to pick up on weak areas or under-represented area to ensure balanced curriculum coverage.

School D: A regional primary school with digital class implementation

1   School context and factors enabling ePortfolio implementation

School 'D' is a contributing school of around 300 students in a regional city. It has two digital classrooms in years 3/4 and years 5/6. Each room has at least 16 computers. A year 1/2 digital classroom is also being trialled. Other classes have around 6-7 computers. There is a mix of desktops and laptops with a mobile pod of 10 additional laptops available for use throughout the school. The school has wireless broadband connectivity school wide.

There are several factors that have assisted this school develop ePortfolios. They are:

- a past lead school for an ICT cluster with strong leadership support from the principal
- a senior staff member teaching in one of the digital classrooms who 'drives' ePortfolio developments
- this teacher was an IT scholarship recipient with time to research ePortfolio initiatives. He has good knowledge and understanding of technology requirements and the key purposes for the development of ePortfolios within the school.
- a past culture of paper portfolios.

2   Overview of ePortfolio implementation

The school is in its third year of digital learning. Initially students saved work to a CD providing a format for the storage of digital work produced. Web-based options were then explored. Within the two digital classrooms all students keep an ePortfolio. Some non-digital classes with teachers wishing to become involved have produced ePortfolios but within a different time frame. As their access to technology is comparatively limited students were not able to produce as many digital artefacts in a similar period to students in a digital class. A number of gifted students in the Year 1/2 digital class are having their learning tracked through ePortfolios.

The purposes for ePortfolios are to:

- align student digital work with the school's pedagogy, particularly with respect to formative assessment
- assist students better understand their learning and to know their next steps in learning
- record reflections of learning and future goals
- support learning through allowing for teacher comment, feedback and student self-reflection
- celebrate learning and provide evidence of that learning
- support reporting to parent's procedures.

The teacher driving developments stated that the ePortfolio alone would not develop formative assessment unless this was already deeply embedded into the culture of the school. When formative assessment practises and ePortfolios work together there is a high potential for formative assessment practices to be more effective.

3 Technical platform, interoperability and transferability

The school has in the past used an LMS but found it did not meet their needs. They now use web-based technologies. Currently students use a blogging platform with 'edublog' as the 'container.' They actively blog and post evidence of learning including embedded movies, photos posted to Flickr, audio, podcasts, slide shows, etc. Students are able to tag and categorise their learning and the learning of others. Parents, teachers and classmates have access to work online where comments can be left.

4 Identified issues and benefits

Issues:

- technical skill levels of staff
- dependence on one key staff member who is driving the developments
- time to set up individual blogging accounts
- access to hardware outside of the digital classes
- interoperability issues when students move to another school
- parent involvement and engagement not to the level they had expected
- many unanswered questions in the privacy/security area.

Benefits:

- provides students with a much greater understanding of their own learning journey and what they could do to improve
- allows for learning to be presented in many different ways
- very motivating for the students
- allows for evidence to be shared
- the speed of the feedback cycle is a benefit for formative assessment
- students are more engaged
- supports the school's vision as to how students best learn.

School E: A large urban intermediate school with school-wide implementation

School context and factors enabling ePortfolio implementation

School 'E' is a large urban intermediate school with around 750 students. It has many students for whom English is their second language. There are a several factors that have assisted this school move towards the implementation of ePortfolios school-wide.

They are:

- A long and strong history of using paper portfolios to assist with the development of independent learners through metacognitive development.

- Strong support from school leadership.

- A senior member of staff driving developments with the ability to use Web 2.0 tools in an innovative manner to support student learning.

- Basic templates provided to assist with initial set up in classes. These can be, and in many cases are, modified by students at a later stage to show their individual 'flair.'

- Wireless broadband school wide.

- Reasonable access to computers for students with 3 computers in each room, 5 to 6 desktop computers shared between four classes plus bookable mobile 'pods' allowing for greater access when required.

- A strong pedagogical focus towards using ICT to support student learning.

- Lead school for an ICT cluster allowing for some staffing release to assist drive developments.

1   Overview of ePortfolio implementation

Teachers were invited to participate in exploratory developments 3 years ago. Two trial classes were established with support offered. The following year it became mandatory for all year 7 students to keep an ePortfolio. At the beginning of the current year, as the year 7 students progressed into year 8, ePortfolios became mandatory school-wide. To develop capability teachers are required to maintain their own ePortfolio as part of the appraisal process, recording goals, reflections, professional development and professional readings. Having teachers work through the process will develop their skill levels enabling them to better assist their students.

Initially a standard school ePortfolio format was developed with agreed key headings. These include sections for recording student goals, key competencies, evidence of learning and achievements. Students have the freedom to add further headings should they wish.

The purposes for ePortfolios were described as being to:

- support student learning

- track a learning journey and show the process of that learning

- develop metacognitive skills through goal setting and reflection

- provide a forum to celebrate learning

- support formative assessment practices

- show evidence of student development in key competencies

- provide a means for parents and others interested in the student's growing development to have access to student work in a secure manner

- support reporting to parents during the 'student-led conferences.'

2   Technical platform, interoperability and transferability

The school has an LMS which is used primarily for ePortfolios and for little else. Each class has a designated space within the LMS with each student having their own ePortfolio section within the class area. A single sign-on allows teachers to access every student's file. Students embed a wide range of multimedia material including text, still and video images, and audio files. A wide range of Web 2.0 tools are used to support the process. Digital story-telling is frequently used as a simple and convenient way to show a learning journey. Blogs and collaborative wikis are also used to track learning.

Some student work is stored within the LMS while other, and more typically larger files, are stored externally on Web 2.0 sites. Students operate with two sets of protocols for internet safety depending whether the work is stored within the LMS or out on the web. This structure provides an authentic teaching opportunity for internet safety.

3   Identified issues and benefits

Issues:

- technical skill levels of staff

- the mandatory use of staff ePortfolios for appraisal has been introduced to assist in this area

- professional development for staff to have all clearly understand the pedagogy behind ePortfolios

- access to computers

- interoperability issues when students move to another school.

Benefits:

- clear evidence of student progress and achievement

- evidence of the learning journey including process as well as completed product

- enables students to reflect on their ability within the key competencies and provide links to evidence demonstrating their growing competence in these areas

- assists with the development of 21st century skills

- helps personalise learning

- engages early adolescents in their learning

- supports the class ICT programme and provides a 'receptacle' for the storage of sisomo (site, sound, motion) produced as a normal part of the learning programme.

School 'F – A National Organisation for educational provision to Blind and Visually-Impaired students.

1. Organisational context and potential application of ePortfolios

The Blind and Low Vision Education Network, NZ (BLENNZ) is a national school providing a network of services to support for children and young people from birth to 21 years across New Zealand who are blind or have a visual impairment. Learners within BLENNZ usually attend their local educational setting alongside their peers and a Resource Teacher of Vision will work alongside the family and team to provide specialist support and instruction.

The education of blind and low-vision students is usually organised through the development of an Individual Education Plan (IEP). The IEP focusses on making a thorough evaluation of a learner's uppermost needs and identifying a small number of next steps/goals and the strategies and resources needed to support them. There may be several parties contributing to an IEP which will always include the family plus a multi-disciplinary team which may include their regular classroom teacher(s); a Special Education Needs Coordinator (SENCO); other relevant professionals as well as the student themself.

Between IEP meetings, team members work alongside the learner and their family making either one-to-one or when possible joint visits with IEP team members and do their best to keep other team members informed of their interventions and/or the progress of the learner towards IEP goals. The information gathered during this time is rarely coordinated and accessible in one place by either the family or individual team members and any documentation of a learner's successs through photos and videos is infrequently shared across a whole team.

E-Portfolios potentially offer a password-protected online space where both the learners' family and IEP team members can share documentation of a learners' progress between IEP meetings, independent of time and distance contraints. The use of photos and video of learners working independently or with the assistance of an IEP team member allows those not present in the moment to observe and reflect upon a learner's progress at different times and in different settings. The multimedia aspects of web-based environments enable team members to share ideas and observations on the learner's achievements in the ePortfolio directly either by writing comments or using audio (e.g. Voicethread) which is especially useful for young learners who are blind or have low-vision.

As many IEP team members work in itinerant roles with huge caseloads, the use of ePortfolios has the potential to reduce much of the disparity in practice between team members, as each is able to observe the interventions and focus of the other through the documented photos and videos. Families too can see team members working on

the same page together to support their child rather than getting different stories from different people or at least a different focus and can respond to and share successes with the whole team in one go.

Overview of ePortfolio implementation

The ICT faciliator for the organisation first discovered the value of ePortfolios for working together with families in an early childhood context. She began trialling Blogger as an Eportfolio implentation with a couple of families of visually-impaired children in an early childhood setting. It was at this stage that it became evident that it could provide a highly beneficial tool for ongoing assessments of the learners' progress.

"The organisation has recently begun a pilot study using the Blogger ePortfolio model with 18 families across New Zealand. Some of those involved have no online access especially in rural places like East Coast North of Gisborne and rural Taranaki and some families have low IT skills. It is a challenge to share the material with families in those situations, but if you keep the multimedia stored on your laptop and take screenshots of the blog it is still possible to use the ePortfolio. In some communities there may not be broadband at home but there may be at the local school or kindergarten – so one question is how can we foster relationships with the local community to provide access.

Skills of teachers are a really significant hurdle. Some take to it like a duck to water, others can see the potential but are nervous about their own skills. People generally will buy in if they think it makes a difference to the learners, so it is a case of finding the right way to demonstrate value with different individuals.

The ePortfolios are not mandated at this stage. The pilot is essentially an action research project to see if it makes a difference to the way we practice. If the pilot shows that ePortfolios influence the way we work in a positive way then it would be hard to justify using it in one region but not in another, so then maybe it would be mandated. But we first need to collect the basic research data.

The purpose of the ePortfolio is for recording milestone data – not just for showcasing benefits. It is for putting up something you want to share with the team and family. At this stage we are not using it for an adminstration tasks like coordinating meetings or archiving notes although some of us are beginning to think their must be a way of coordinating all that information and communication alongside the ePortfolio".

2. Technical Platform, Interoperability and Transferability

"The pilot is using Blogger as the ePortfolio platform. The advantage of using a Google application is that it is well-known which helps lower barriers to access, also it is free.

Some of the applications you use to post to the site have their limitations, ecpecially for learners who are blind or have low-vision. One reason for using Blogger is it can be linked in and out of other platforms – it is web 2.0 friendly. Whilst it was tempting to use Interact or TKI, we wanted to maintain a level of independence. I would prefer an Open Source solution. I have come across Mahara, but haven't explored it yet. I feel Blogger is more familiar to people. One question I do have is what is accessibility like in Mahara?"

Identified Issues and Benefits

Benefits

- We are a national organisation with geographically distributed pockets of specialist expertise

- Keeping everyone on the same page, working forwards together.

- The use of multimedia (audio and video) means that learners can hear the voices of their family and team providing feedback. Also the learner can express themselves in a greater variety of ways.

- We hope in time that many of the learners will directly contribute to their blogs, posting their own stories and initiating conversations with team members.

Issues

- Security is an educational issue for all of us. We have worked through the Netsafe guidelines but made much more explicit our protocols around how the blogs are used.

- We had to teach everyone how to make their Blogger profiles private.

- Another development has been when families have decided to share their child's ePortfolio beyond the IEP team as they have no issue with more people seeing the successes their child is having.

- Learning the language you need to use to write in a blog for and about a learner. When you write you are not only talking to the learner directly but also to the team in an open way. It is important to be specific and not subjective. This places a different set of demands in writing style on the person providing feedback, but may serve to improve quality of information and communication by focussing attention on it.

- If the practice isn't supported through an investment in PD for teachers it will fall over. Release time is important too, because it does take time to learn new things. Its also important to make time to evaluate and refine the way we work in this new environment. and to stay on top of new ways of working.

- We need to bring the growing body of information around ePortfolios together as much as possible to help everybody move forward in this area

Glossary

BECTA	British Educational Communication and Technology Agency
EIfEL	European Institute for E-Learning
EFQUEL	European Foundation for Quality in E-Learning
ELGG	enables individuals, groups and institutions to create their own fully-featured social environments
ESL	English as a Second Language
IAM	Identity and Access Management, a concept that combines business processes, policies and technologies
ICT	Information and Communications Technology
LMS	Learning Management System
Mahara	an ePortfolio tool
MOSEP	More Self Esteem with my ePortfolio
NCREL	North Central Regional Education Laboratory

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