

Digital portfolios

Guidelines for beginners

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1. Scope of the document

During the last 10—15 years ePortfolios have become a significant feature in higher education, often originating out of distance education. More recently, their benefits and use in the compulsory education sector have attracted a lot of interest and the Ministry receives numerous enquiries from schools interested in establishing digital Portfolios into their teaching practice.

If you are interested in finding out more about digital portfolios then this document will increase your understanding of the emerging place and importance of ePortfolios in the education of our children. The document is aimed primarily at, but not limited to, a non-technical audience with limited prior knowledge of ePortfolios. It should provide school leadership sufficient understanding to enable them to consider the place of ePortfolios in their school's ongoing educational strategy.

2. The evolution of digital portfolios

The word portfolio has many meanings – from finance, government, artistic to career. An ePortfolio has some parallels with an architect's, or artist's, or a career portfolio, and can even be compared to a digital version of *some kind of briefcase*. However, the parallels are restricted and an ePortfolio has many technology-enabled features which make it very different from any of the above.

For years schools have kept samples of children's (often best) work in a folder and this was often referred to as a portfolio. Other schools encouraged children to build-up, work-in, and maintain their own paper portfolio. An approach such as this encouraged students to become more engaged, reflective and responsible for their own learning. Done well over a period of time, it also resulted in students growing to view the teacher as more collegial than authoritative or didactic. Digital portfolios have evolved from this type of (paper) portfolio. Despite (frequent) comments that ePortfolios are similar to paper portfolios with a change of media, they are in fact quite different (conceptually and technically) and have a large number of distinguishing properties and associated advantages.

While everyone is aware of the rapid evolution of technology, not everyone is aware of the new and different ways in which people are using the technologies in teaching, learning, and communication; and the emerging pivotal role of the digital portfolio in a learner's education and life.

3. Distinguishing features and advantages

Digital portfolio	Paper portfolio
Enduring	Can deteriorate over time, susceptible to environmental degradation –moisture, sunlight, etc
Provides continuity and can be lifelong	Often time-bound and discontinuous
Totally mobile	Not easily mobile, transport can be difficult
Freely and easily reproducible	A reproduction can be very time consuming and inevitably will not look as good
Fully searchable – instantly and always available to be searched	Table of contents and possibly an index, requires physical presence
Enables collaborative work	Not easily and certainly not simultaneously
Can be a 'live' resource for others	Could be a limited and time-bound resource
Easily reviewable by anyone, anywhere, anytime	Needs to be physically present
Can be read, peer reviewed, or marked by multiple viewers simultaneously. I.e. it has a feedback loop	Needs to be copied and then distributed to enable multiple viewers or markers
Allows different organisational 'views' of the one set of core resource material	Fixed layout and format
The views represent different functions for the ePortfolio: progression, process, showcase, competencies, etc	Different layouts are difficult to produce and are always (paper) media bound or may also contain discrete additional media samples
It may be linear, or hierarchical in structure, or neither, or both	Structure is fixed
Allows learner/teacher interaction	Not unless done within the classroom
Provides student voice – feelings and emotions	Impersonal – does not do feelings and emotions
Improves the learner's ICT literacy skills	
Easily and always available for editing	Not easily editable
Easily communicated to any size, type and location of audience	Expensive to do so – needs copied and transported
Intended/designed to encourage reflective practice	Can be, but more difficult to include reflections
Infinitely extends the classroom	Must be physically transported and present
Anywhere, any time access	Must be physically transported
A personal approach to learning that grows with the learner's maturity	Content and organisation mainly driven by teacher
Development focused	Tends to be assessment focused
The owner has total control of the sharing and commenting capability	Once out of the owner's hands the owner has no control over access or commenting
Does not have to be in possession of the owner to be accessible and usable	Owner can remotely direct access to specific person
Secure – difficult/impossible to lose or misplace	Can be lost or easily damaged
Multi-media – text, charts, graphic images, sound, video and all combinations	Paper-based media only – text, images, diagrams, charts. May have discrete additional media samples
Can include embedded files	What you see is what you get
Can link directly and immediately to other references	Manual references can be provided – often difficult and slow to follow-up

4. Definitions/descriptions of a digital portfolio

Definitions abound – most of them describe an ePortfolio as a type of online working environment, or learning journey that can house or provide access to many digital artefacts and resources in various media formats. The artefacts can include goals, process work, reflections, feedback and feed-forward, evidence of activities, assessments, achievements etc. These can be combined in various ways to produce different 'views' for specific audiences. For example a view may contain relevant evidence of a student's learning progression, competencies and achievement. The student retains the artefacts for as long as required, continually adding, subtracting and remixing for the appropriate use and specific audience.

For better understanding it is also necessary to think of the use of an ePortfolio as an approach, or method, or support structure to teaching and learning. That is, an ePortfolio is both a quantifiable thing and at the same time, a process.

The use of digital media enables students to record and collect digitised artefacts including text, audio, video, and multimedia that represent their ideas, learning experiences, expressions and reflections – here the ePortfolio is somewhat like a digital briefcase. However the power of the ePortfolio comes from the underlying support structure and process – the interaction between students, peers and teachers as the specific views evolve and the student's learning is created, shaped, expressed, and owned.

Student ownership of the ePortfolio is generally considered sacrosanct. However the ways in which the ePortfolio is used both increase and change as the student matures and the ownership moves along a continuum, quite quickly becoming student-owned. This does not mean a teacher cannot see the required parts of a student's ePortfolio. Any student work that would normally be made available to a teacher in a traditional 'pen and paper' environment is still required to be made available by the student as a digital artefact.

The following points (Ward & Grant, 2007) provide a good summary of an ePortfolio being both a noun and verb:

- A 'repository' for 'artefacts'
- A means of accessing personal information, perhaps held in distributed databases
- A means of presenting oneself and one's skills, qualities and achievements to others
- A means of collecting and selecting assessment evidence
- A guidance tool to support review and choice
- A means of sharing and collaborating
- A means of encouraging a sense of personal identity.

People view and define digital Portfolios in different ways. The term ePortfolio is most common but terms such as Personal Learning Portfolio (PLP) are also used. There is no one absolutely correct model, approach, or definition of an ePortfolio. The definitions and descriptions above provide guidance to the typical range of digital portfolio functions and use.

5. Digital portfolio content

The range of content and activities held, or accessible, from within an ePortfolio varies according to the tool sets used, the age, experience and creativity of the user. The list below provides examples of content that may be present (at some stage) in a digital portfolio:

- personal profile
- personal values and interests
- personal development plans
- short term goals and long-term improvement targets
- class-work notes
- homework
- assignments
- course-work outlines
- artefacts – may be discrete or packaged evidence of learning, and justification for their choice
- reflective comments
- self assessment
- links to online resources
- embedded reference/resource material
- individual learning plans
- peer and teacher/mentor comments and reviews
- assessments
- social communication and contacts
- scanned images showing writing progression and achievement
- evidence of competencies and achievement
- education history
- resource artefacts
- recordings of language/music/speaking skills
- drama/acting evidence
- interviews and interview skills recording
- multi-media – photographs, animation, text, scanned images, video clips, audio comments, pod casts
- evidence of course awards and certification
- appraisal reviews
- volunteer work
- courses attended
- professional development plan, records and notes
- credits and qualifications
- presentations and papers
- work experience and unit qualifications
- work related/based assessment
- resumé/CV
- awards and certificates

6. Benefits and outcomes of an ePortfolio approach

- the content and nature of the ePortfolio grows over time with the age, experience and maturity of the learner
- learners develop a positive attitude to their learning through having ownership, control, and direction of the learning journey
 - as a result learners are better motivated and engaged in their learning
 - learners build self-esteem
- a record and celebration (journey) of learning (possibly for life)
- capturing and recording evidence of learning
- evidence of summative and formative assessment
- the opportunity for improved pedagogy – teaching and learning focused
- evidence key competencies
- personalised learning
- learners can reflect on their progress and achievements – while written reflection is encouraged, it is not the only means (audio for example)
- an online environment provides equal opportunities for all group members to contribute – not just the vocal ones
- the use of multi-media tools (camera, scanner, video camera, mini (usb) video camera, digital USB audio recorders, podcasts, ipod, ipad, the internet itself) provide frequent opportunities to capture students' emotions
- the approach will grow the learner's ICT and multimedia skills
- support (feedback and feed-forward) of learning
- social networking
- collaborative learning opportunities
- enables connectivism which is all about creating a network of connections
- enables multiple reviewers, or peers, or parents to view and comment – comments do not have to be restricted to written expression (this ensures a feedback and feed-forward loop)
- learning is exposed to a wide audience
- educational progress is apparent to all stakeholders such as the learner, parents, teachers and institutional leaders
- the parents are involved and kept informed, almost on a daily basis – this can improve school-community relationships and certainly helps parents better understand their child's learning journey – a demystifying effect
- ideal approach to support student-led three-way conferencing reports
- multiple views available of different combinations of artefacts matched to audience
- the learning experience can be enhanced through access to global multi-media resources
- presentation of learning can be done in many different ways
- portable, secure and 24/7 access
- through the web, access to world events as they are unfolding
- storage repository always available throughout the learning journey

ePortfolios achieve a goal that many other assessment methods can not; they change the student role in assessment from passive research subject to active participant as

students are called upon to select samples of their classroom and co-curricular work products for the ePortfolio and (perhaps most importantly) to reflect upon why these artefacts were selected and how they demonstrate learning. (Knight, Hakel and Gromko, 2006)

Reflection and blogging

Reflection:

- connections between all strands of learning
- both independent and collaborative learning
- user rationalisation of the ePortfolio's contents to show how learning has occurred
- goal setting and time skills
- younger students will provide teachers with feedback online about parts of lessons that for whatever reason they won't make to the teacher's face – feed-forward for the teacher!
- self-thought about one's own learning – what has been achieved – how to improve it
- an understanding that learning is self-determined and controlled
- relationships between teachers and students are strengthened
- children develop skills on both how to reflect and how to respond to others' comments about their reflections
- children like the feedback and feed-forward
- children learn to think about what they have been taught with a view to next steps – analysing our past experience and applying it in future activities
- parents can better understand and experience their child's learning process
- planning of what learning should occur next and how to achieve it
- we want students to develop the ability to detach themselves from their own work and view it objectively so that sense can be made of what they have learned and how they can use that learning going forward.

Blogging:

- This is a common method of reflecting. Some insights on blogging include:
 - students who are shy and reluctant to voice an opinion in class are usually willing to write on their blog providing comments that normally would never have seen the light of day
 - all students gain a better perspective of what they have been studying from the wide ranging thoughts expressed by other members in their group
- often, less able students gain deeper meaning and richer thoughts than they would have come up with by themselves, from exposure to other students' thoughts
- able students, in particular, are able to build on the comments provided by others
- teachers can gain a much wider and deeper (and realistic) view of students' talents.

Excellence in any line of work requires an iterative process of reflection and self-assessment against clear criteria and high standards. While others' comments and criticism can be valuable in this process, one's own skill in monitoring and managing self-improvement is most important to raising excellence. (Wolf, 1989, p.35)

7. Planning for success

- require teachers to become ePortfolio users before implementing this approach with their class
- be aware of the lack of some teachers' technological experience, skill level and enthusiasm – plan how to compensate and overcome this so they can become competent ePortfolio users
- competent, confident staff will support and encourage student readiness
- check connectivity across the school and its communities – this can include the:
 - 'broadband' speed
 - numbers and ages of the computers and laptops
 - operating system variations within a school
 - age of the network operating system, cabling, switches and wireless coverage
 - deployment of computers throughout the school and community
 - availability of the library after school to students and community
- internet safety – teachers may be quite unaware of security and privacy considerations – plan awareness programmes
- avoid the risk of dependence on a very limited number of key staff members:
 - sustainability is critical and this demands numerous ePortfolio specialists
 - share the knowledge and expertise
 - the champions for the cause must have senior management endorsement
 - the champions need time for implementation, training and re-organising resources
 - the initiative must be part of the school-wide strategy.
- if teachers have had ePortfolio training then you will eliminate any negative comments that ePortfolios are just another ICT (time-consuming and technically challenging) task with limited (unknown) benefits
- encourage the view that ePortfolios are all about the improved pedagogy of a teaching and learning journey – the technology just helps the journey along its way
- the time to set up accounts and implement across all levels of a school is significant
- be aware that the cost of buying training is considered high:
 - if you do provide your own training, it is not free, but in fact is a very real cost!
 - the efficiency and effectiveness of internal training is usually much less than that from professional trainers
 - this can result in a slow, ineffective rollout that may destroy the momentum of the initiative
 - training costs must also allow for ongoing follow-up and support being available.
- teachers are very busy people – schools can be quite frenetic environments:

- classroom teachers have little time and often less expertise to fix technical failures
- nothing will kill a teacher's enthusiasm faster than technical failures! ...so
- do everything possible to avoid technical failures – and have contingency planning
- ensure the level of technological support in your school will not be a limiting factor:
 - well-meaning self-taught enthusiasts can be great, but seek a second opinion
 - the level of expertise to support a modern network is very high and almost certainly beyond the capability of an untrained, non-specialised operator
 - managed networks provide an answer but can appear expensive to school management who do not appreciate the true cost of supporting a modern network
- is this an opportunity to reconsider any major teaching and learning philosophies across the school?
- teachers' comments added to students' digital portfolios can be viewed or listened to, and scrutinised by a wide audience – they must be professional:
 - the required quality and associated time taken to think about and create such comments can be a challenge – consider providing professional development
- ensure the community is kept informed and educate them on the reasons why the initiative is important to their child's education
- the practice of reflection is initially challenging to both students and teachers– even as they start to appreciate its advantages, they may remain reluctant until overcoming their own fears
- start the deployment with the enthusiasts:
 - use them to iron-out any challenges with their classes before a wider deployment
 - various schools have tried year-level rollout, class rollout etc
 - few would want to tackle a whole-of-school approach.

8. Objectives pedagogy, ownership and audience

Objectives

Some easy to achieve school-wide objectives in implementing ePortfolios with students

- to establish student-led communication among students, staff and parents
- to establish a school-wide PD programme for staff
- to establish student reflection as a learning practice at all levels
- to improve staff and student information technology skills
- to increase parental involvement and have better supported home learning
- to create an archive of student work artefacts and reflections
- to improve learning effectiveness and management

Some easy to achieve school-wide objectives in implementing ePortfolios with adults

- as Mark Osborne (Albany Senior High) states in their ePortfolio journey:
 - have teachers use ePortfolios alongside the students
 - if teachers use them, they quickly become aware of the best and worst ways to use an ePortfolio
 - if we value them and think our students should use them, then teachers, as lead learners should use them too

Pedagogy

Traditional linear, teacher directed approaches to learning don't fit well with student owned and directed learning. A learner-centric interactive approach highlights constructivism and connectivism as more relevant. Some specific pedagogic benefits of ePortfolios have been identified as:

- Authentic learning, where learning is more meaningful when it is linked to real world experiences; (Buzetto-Moore, 2008)
- Experiential learning, where 'learning is by doing' rather than through telling;
- Competency-based education, where instruction is outcomes-based using electronic portfolios as part of student learning outcomes-based performance assessment where assessment may include higher order skills; (T Cooper & Love, 2007)
- Lifelong learning, where learning is directed by the individual and guided by the individual's interests; (Venezky & Öney, 2004)

Autodidacticism, where learning is self-taught, self motivated and self-directed where students take responsibility for their own learning. (T Cooper and Love, 2007).

Ownership and audience

- younger learners need teacher (and parent) assistance
- the degree of ownership increases with age
- the learner will eventually have total control about what information in the ePortfolio is shared with whom
 - However students still have to make available (to teachers) any material that teachers would normally expect to access in a non-digital world
- at some stage learner ownership will be regarded as absolute
- the audience can include:

- teachers
- mentors
- peers
- friends
- family
- creator
- prospective employers

9. Important planning considerations

- the ePortfolio method/approach must be developed as an integrated and key component of teaching and learning – it must not be seen as something separate
- ePortfolios support a constructivist pedagogy, this must be a driving force for implementation
- top down understanding, direction and support is essential
- ensure the school has more than one ‘champion’ – expert knowledge must be documented and shared to ensure the school has a group of evolving ‘specialists’
- professional development for staff to help them appreciate that ePortfolios are part of a teaching approach and cannot be considered an ‘add-on’ to regular classroom programmes
- the professional development for staff implementation must include support for ongoing maintenance and growth
- an ePortfolio is the ideal tool for any teacher recording their professional teaching career. It is also very helpful for staff to develop their own ePortfolio as it provides them familiarity and appreciation of the rationale behind the process and direct experience of the benefits
- an ePortfolio enables teachers to inform school leaders about their progress and achievement
- ePortfolios provide a record for teachers’:
 - appraisals
 - goals, aspirations and next steps
 - professional readings and publications
 - courses, seminars and conferences attended
 - qualifications and certificates
 - professional development
 - presentations
 - teaching history
 - papers and courses developed
 - assignments, tests and homework
 - interests and sporting/cultural associations
 - Curriculum Vitae/Resumé

The comments that teachers make on students’ work may be seen by a wider than expected audience and the style has to be specific rather than subjective. Teachers may need professional development, exemplars and practice to be able to write appropriate comments that are open to the scrutiny of multiple audiences.

ePortfolio selection (technical) criteria (from the Ministry of Education)

- be open source (to ensure sustainability)
- support LEAP2A interoperability standard
- have robust user management, support Identity Access Management (IAM) and permissions structure (to enable single sign-on)
- 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

ePortfolio common generic requirements

- usability
- portability
- user owned – a critical aspect (appropriate to age)
- lifelong availability and support
- technologically scalable
- technically advanced

Security¹

There are a number of security issues for an ePortfolio:

- Security – is the system secure enough to prevent it being accessed, edited or deleted by anyone without the appropriate access level?
- Are there secondary systems in place to ensure the evidence cannot be modified if it is accessed?
- Is the information securely backed up – under what conditions could it be lost?
- What service level agreements exist to ensure that the ePortfolio won't be lost because the system's hosting service closes down, is taken over, or for whatever other reason stops hosting the ePortfolio?
- Is there an audit trail that the user can check?
- Like all IT applications and services, the limiting security factor (weakest link) is invariably the user

¹ Kevin Hickey, Lancaster University

10. Is this the right time to introduce ePortfolios?

- Why are you considering ePortfolios?
- Lots of the world is technology enabled – is your school ready for a digital technology world?
- Technology now enables us to access information whenever and wherever we want
- Today's students have never been intimidated by technology.
 - They have grown up with ever-changing technologies and accept that as the norm.
 - They live, learn and socialise through technology which is their window to instant world-wide communication and information.
- Many schools have digital classrooms
- Some universities now expect all students' work to be digital
- Most students have home access to the internet and the number increases daily
- Cloud-based storage is available, allowing students to manage and access large volumes of their work 24/7
- Digital technologies have evolved to the stage where they touch all parts of our lives
- World-wide news can be streamed into the home as events unfold
- Historical and current digital-reference material is freely available – the history of the world is at our fingertips in a choice of media
- Be aware that your digital details are held on different databases by more than 50 organisations, agencies and companies
- Is your school and are your teachers digitally prepared? As Mark Prensky (*Digital Natives, Digital Immigrants, 2001*) wrote: "*our digital immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language*"
- Refer to the TKI site for *digital technologies guidelines*

11. Tools – what's out there?

Eleven schools have written up their experience of their respective ePortfolio journeys. These show the myriad of ways that can be used as schools feel their way and experiment to find the best fit for them. What is required for your strategy will reflect the maturity and experience of eLearning at your school.

Commercial

KnowledgeNET (contains an ePortfolio module)

Moodle (not developed as an ePortfolio, but has been used in some cases)

My Classes (contains an ePortfolio module)

Ultraset (contains an ePortfolio module)

Web 2.0 tools

Refer to any Google search. The magazine *Interface* often reviews tools that are used by schools

Open Source

Mahara (MyPortfolio) – a New Zealand developed ePortfolio supported by the Ministry of Education

Google Aps for Education

Office 365 (formerly known as Live at Edu)

Blended

The Ministry's position – MyPortfolio

The Ministry has chosen MyPortfolio (a specific New Zealand instance of Mahara) as a National ePortfolio solution. At this stage we believe it is eminently suitable for year levels 7–13. Several New Zealand Universities also use Mahara and internationally it is even better known and used than here, in its country of origin. Mahara effectively offers students an ePortfolio for life. Ongoing development of the software will mean its use at younger age levels will be more common. (See the next section) Even now we are aware of some schools using it for younger students and are watching their progress with interest. We would like to provide schools assurance of the continuity of service and ongoing development enhancements.

Learning management systems such as KnowledgeNET and Ultraset also contain digital portfolio functionality. While the Ministry fully endorses the use of these products as learning management systems we are supporting only MyPortfolio as an ePortfolio. This is because the key considerations of an ePortfolio include student ownership and transferability (mobility). I.e. the ePortfolio can remain with the student in its current form as the student moves from one school to another or even to higher education. Students using MyPortfolio become part of a New Zealand community of users and as such are able to have secure contact with fellow students having similar interests throughout the country.

To assist schools needing to move data from a learning management system to MyPortfolio the Ministry is currently carrying out research to determine what needs to be done to ensure better interoperability between common LMS and MyPortfolio. This would mean that schools could use MyPortfolio alongside LMS products such as KnowledgeNET, Moodle, or Ultraset and easily transfer data between them. The vendors of these products are fully aware and supportive of the Ministry's stance and commitment to MyPortfolio as a national solution.

Currently the Ministry is offering 'taster' sessions to groups of teachers with an interest in using MyPortfolio. The response has been very pleasing and lots of teachers have now

got a MyPortfolio account and are starting to appreciate the power and usefulness of MyPortfolio.

ePortfolios and younger age students

Many schools introduce aspects of ePortfolio practice to students much younger than year level 7. Some pre-schools have for many years kept digital records of learning activities, achievements and transitions of their children, often created, or contributed to, by other children. The process of viewing such material can encourage an early start to the practice of reflection. At a younger age the children initially need much more support, but technology is ubiquitous to them so the support can be more around the non-technical side of learning. Schools also use the ePortfolio functionality in KnowledgeNET and Ultraset; some start off with products like PowerPoint and still others use blogs, wikis, Google Apps etc. (Refer to the school profiles – five of them are primary schools)

The usability improvements being made to MyPortfolio will undoubtedly increase its attractiveness to teachers of younger age students. The future (partial) interoperability between MyPortfolio and selected learning management systems will enable students to transition to MyPortfolio with minimal loss of data and from that point on they will have continuous ownership and access to their ePortfolios as they progress through their education journey.

12. Where to start – what to do first?

The ePortfolio approach must be thought through in terms of:

1. Has the introduction developed from strategy and not from competition?
2. Are senior leaders involved and supportive?
3. Do senior leaders understand and appreciate the reasons why, and manner in which ePortfolios are evolving?
4. Is the school's network, hardware and broadband situation as ready as can be?
5. Do students and staff have high speed internet (and computers) in the home and at school?
6. What equity issues must be put forward and worked through?
7. Does the school understand and support the pedagogy shift?
8. Is the strategy fully integrated into a whole of learning approach for the students involved?
9. Is the speed of the roll out of the initiative able to be supported?
10. Is the staff's preparedness and understanding of the ePortfolio initiative sufficient?
11. Are staff competent ePortfolio users?
12. Is the staff's ICT capability and capacity sufficient?
13. Do you have high-level technical support for the network and computers and readily available professional advice for teachers?
14. Is the ePortfolio part of a wider Managed Learning Environment (MLE) roll out, or does it sit alongside the MLE?
15. Should the eLearning model be totally established and bedded-in before embarking on the ePortfolio?
16. Does the funding allow for ongoing support and training and will it accommodate an increasing uptake?
17. What similar types of reference schools have you visited or talked to?

School's current policy

The introduction of an ePortfolio approach to teaching and learning has the opportunity to totally change students' attitudes to learning. The policies of last century style teaching must be reviewed and renewed. All research indicates the most effective implementation is when the student is completely immersed in this approach to learning as opposed to just one subject for example. Well grounded, clearly understood policy leads to good classroom process.

Communication protocols and policy

When schools introduce online working environments they should also develop appropriate communication policies and protocols – because:

- Students have to be taught appropriate ways of expressing their own views and their comments about others – remember that the audience may be wider and quite different to the one they anticipated when the comment was written.
- Teachers' comments will be exposed to potentially large audiences and must be thoroughly professional and appropriate at all times.

- When staff and students are communicating online, the ‘discussion’ can become very informal and possibly inappropriate – guidelines should also cover the times of the day when communication is expected and when it is inadvisable.
- Parents can sometimes be either quite disparaging, or overly positive in comments they write about their own children’s work.
- To be able to write in a positive, encouraging, constructive, and forward looking style is an acquired practice.

Please consider providing staff, students and parents, examples of exemplar comments, and develop supporting policies and protocols to which they can refer.

Hardware and infrastructure

The considerations here are far reaching and ongoing, remember the ideal is one:one computing (device:student).

1. Replacement policy and the ongoing budget
2. The school’s network – cabling, switches, servers, security and backup
3. The broadband connectivity within the school and in the community
4. The library as a possible means of addressing equity
5. The nature of the computer deployment in the school:
 - a. Computer labs
 - b. Mobile laptops (COWS)
 - c. Distributed laptops or all in one computers
 - d. Mobile netbooks
 - e. Student-owned laptops/netbooks
 - f. Portable student devices
 - g. Student-leased laptops/netbooks

Pedagogy

Refer to [Section 8](#), under the heading *pedagogy* for details.

Staff

ePortfolios are an excellent (stand-alone) tool for staff professional development. This ensures they are familiar with the application and approach. However they need to know support is available when starting out on this pathway. They must have ongoing professional development and continued use of the tools at a rate that suits them. Availability of technical and professional support cannot be over-stressed.

13. Learning environment definitions

Student management system	SMS	MUSAC, eTAP, KAMAR, Assembly, PCSchool	The software to manage student enrolments, assessment details, school activities, classes, timetables and administration
Learning management system	LMS	KnowledgeNET, Moodle, Ultramet	Usually very similar to a CMS, are institution-centred
Course (content) management system	CMS	Moodle, Blackboard, Sakai	Web-hosted software to deliver, track and manage online courses (content)
Virtual learning environment	VLE	Fronter Various tools	The learning and management tools, services and communications a student interacts with during his education
Managed learning environment	MLE	Fronter Various tools	Same as VLE, can include both learner-centric and institution-centric applications
Personal Learning environment	PLE	A mix of (online) services and applications	A concept and also a networked environment containing a collection of online tools, communities and services to assist the learner manage their own learning. (Learner-centric)
Web 2	Various	Skype, Flickr, Youtube, Delicious, Buzzword, Twitter, Audacity, Blogger Facebook	Web based (browser) applications that allow user interaction and collaborative resources, social networking, wikis, blogs etc. Students typically work with many Web 2 tools as part of their PLE

14. Profiles of selected schools' ePortfolios pathways

School name	Contributor	School type	Page
Albany Senior High School	Mark Osborne	Secondary 11–13	24
Bethlehem College	Jamin Lietze	Composite	26
Bucklands Beach Intermediate	Lenva Shearing	Intermediate	28
Cornwall Park	Amanda Grimsey	Contributing Primary	32
Fairfield Intermediate	Erin Freeman	Intermediate	34
Ilam School	Jo Dudley	Contributing Primary	37
Pt England	Russell Burt	Full Primary	42
Red Beach Primary	Lesley Tait	Contributing Primary	46
Ross Intermediate	Liam Rutherford	Intermediate	50
Tawa Intermediate	Helen Moran and Carolyn Stuart	Intermediate	52
Timaru Girls' High	Pete Potter	Secondary 9–13	55

Albany Senior High School

Years 11 to 13, roll 430 in 2010, 720 in 2011

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**
We have used Mahara through the Ministry's *myportoflio.school.nz* service since it began.
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**
No, just one tool.
3. **Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**
All staff and students use ePortfolios. We're also planning to give parents access to the system in the next few months, so they'll be able to use it to be more involved in their children's portfolios, but also to make their own if they want to.
4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**
Our use of ePortfolios began as a response to dissatisfaction with conventional assessment. We wanted a way to collect rich data that we could use for evidence of learning and it was a Senior Leadership Team decision initially.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
We consulted extensively with the community while we explored the pedagogies and assessment tools we wanted to use and ePortfolios were part of this. Parents were extremely interested in any tools that helped to demystify the jargon around what students were learning.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
The crucial links are: single sign-on so students can remember their usernames and passwords and links with our learning management system so students can publish directly to their portfolios.
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**
It has to be both top-down and bottom-up. There needs to be a lot of discussion between leadership, staff, students and parents about what ePortfolios are and why students should use them. Always, always, focused on learning.
8. **Do teachers have their own ePortfolios?**
Yes. If we value them and think our students should use them, then teachers, as lead learners should use them too.
9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**
We've seen more of a move toward an on-going approach to assessment, so more focus on multiple assessment opportunities and recording progress over time. Much more focus on formative assessment, peer-review and feedback too.
10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external 'experts' brought in to provide PD and/or training?)**
An initial session on the basics of how to put a simple view together, then we ran a Mahara taster session with our staff. Training the students has been a really good technique. They teach each other and the teachers often.

11. **What are the next steps for your school in your ePortfolio journey?**
We would like to do more with mobile phones, particularly in the area of texting/microblogging.
12. **Can you recall any “quotable quotes” from students or teachers?**
"It's about empowering learners and improving their learning capacity."
"My friends and teachers can give me feedback on how to improve. It's really easy."
13. **What has been the single-most important benefit the students have gained?**
An all-of-life tool for recording, storing and reflecting upon their learning.
14. **What has been the single-most important benefit the teachers have gained?**
A way to share our learning from professional development with each other.
15. **In the entire process what has been the most difficult barrier to overcome?**
Giving students access to enough devices to allow them to work on their ePortfolios. We've gotten around this by allocating PCs in 20 minute booking slots.
16. **What has been the most unexpected outcome (preferably positive) of the journey?**
An explosion in the use of video to record evidence of learning, both through mobile phones and Flip videos. From Spanish lessons to maths demonstrations to music performances. Everyone's using video to record learning.
17. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
* Be very clear on the kind of learning you're trying to promote.
Depending on
* Have teachers use ePortfolios alongside students. If teachers use them, they quickly become aware of the best and worst ways to use an ePortfolio.
18. **If you were to start again, what significant changes would you make?**
Talking to students more about what portfolios are and why they are of use. The staff needed to get their heads around what they were and how they could add value to learning, so we didn't start the process off by talking about how they should be used because we didn't clearly know ourselves.
19. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
6
20. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
Yes.

Bethlehem College

Years 1 to 13, roll 1,500

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**
We use Ultranet, a learning management system with ePortfolio built-in. After researching a range of tools with a set of criteria, Ultranet was the best fit. It did not meet all the criteria but was the closest. (see attached copy of criteria).
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**
Ultranet has all the components we wanted within it. This is important especially for our little Year 1—3's so they can do the things they need to do simply in one environment. Too many clicks (visiting different sites, entering different passwords) is a barrier to getting the work done.
3. **Can you provide details of the extent and order of the rollout of ePortfolios (School-wide, Year levels, classes, or subject-classes) 2009. Ran a pilot with three classes in Year 1, 6 and 7.**
2010. Continued the pilot but with 12 classes covering Year 1, 3, 6, 7. In Secondary our Chemistry and French classes have begun this year but with the intent of 'playing' to see how it works with their subjects.
An 'Introduction to ePortfolios' <http://prezi.com/grikgzucxm-/introducing-the-ePortfolio> presentation was given to launch 2011 and 2012 plans.
2011. Voluntary roll out continues.
2012. Compulsory for all classes Years 1—8, 30 classrooms.
4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**
Inspired by Nick Rate's "Assessment for Learning and ePortfolios" workshop at ULearn08 I began the journey with 2 other interested teachers (bottom up). You can view my reasons for this at this link <http://lietze.org/?p=102>
Our senior management have been happy to allow the pilot and have now decided to formally get behind it and see it implemented across Year 1–7.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
From the beginning we considered the home connection as this was part of our purpose. First we ran a survey to find out if there was a home computer that the student could use and to see if it had broadband (so videos within the ePortfolios would be easier to view). Following this we ran a Parent meeting to introduce the ePortfolio, why we were running the pilot and how Parents could be involved.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
No obvious answer
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**
Definitely bottom up AND top down. Lead from the bottom by someone who is passionate, has a clear purpose, research backed (giving confidence and the big tick) and with sound pedagogy. After all it is about the learning not the tool. The learning must be the focus and the thermostat by which progress is measured. Supported and acknowledge by the top so that there is senior leadership, accountability and consistency in the school.
8. **Do teachers have their own ePortfolios?**
Currently only a few. The Senior Management were hesitant to begin this as a new

appraisal system has been implemented and it was felt that that is a big enough step for our staff just now. It is my hope the appraisal system will expect Teachers to have their own ePortfolios in the near future.

9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**
The pedagogy has been challenged by the research into effective ePortfolios and assessment for learning. We find that as we discuss the purpose and ePortfolio practice it is a good catalyst for refining our current practice. Working together problem solving and discussing what is working and what is not is great for professional development.
10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external 'experts' brought in to provide PD and/or training?)**
Initially small meetings were held and research handed out to read and discuss. Following this regular meetings have been instigated so that just-in-time learning can take place and frustrations can be quickly dealt with. Recently I set up a meeting in Hamilton for Teachers (in my school and around the North Island) who are implementing ePortfolios to get together and share and grow. This proved very positive and we look to do it again soon.
11. **Can you recall any "quotable quotes" from students or teachers?**
12. **What has been the single-most important benefit the students have gained?**
Greater ownership, understanding and engagement in their learning. They are empowered and enriched by the formative processes (feedback and feed-forward, next steps and reflections), 24/7 access and family/friend support based around the digital samples (web 2.0, recorded voice, pictures and videos) that make up the student's ePortfolio.
13. **What has been the single-most important benefit the teachers have gained?**
The ePortfolio has been "a new way of doing things" that has been the leverage to challenging and refining their current practice.
14. **In the entire process what has been the most difficult barrier to overcome?**
Getting parents on board with the purpose and approach to learning. We currently have 89 Parent log ins (3 classroom families) but they use it very little.
15. **What has been the most unexpected outcome (preferably positive) of the journey?**
The lack of parent engagement with their child's ePortfolio even after they showed such a positive response during the meetings.
A positive outcome is that the implementation has caused a greater level of professional dialogue and growth. I can see the pedagogical discussions are powerfully impacting on teaching practice across the curriculum.
16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
Identify your purpose first and then find another school with a similar purpose (and possibly a similar platform) then glean/copy/learn from them. It will save a lot of time
17. **If you were to start again, what significant changes would you make?**
More support for the teachers who are implementing it in their classes. This would include sharing research, going to other schools to see their practice, bringing speakers in and celebrating progress.
18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
For our school, considering the time and energy already spent beginning the process, school size and the progress made to date, I would give us a 3—4.

19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
Definitely!
20. **What are the next steps for your school in your ePortfolio journey?**
2011 – Continue the voluntary roll out (expecting another 8–10 classes next year). Increase Parental engagement, knowledge and understanding via meetings, newsletters and the data availability that the SMS-LMS interoperability early next year will provide (this will give parents access to standardised reports and absentee records, etc).
2012 – ePortfolio practice will be compulsory from Year 1—7 (25 classes).

Bucklands Beach Intermediate

Roll 770

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**
We are currently using KnowledgeNET and have been for about seven years. We use it to house our student and teacher portfolios, and some teachers use it as a class web portal. We are also using Google Apps for Education.
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**
All the tools we use support the portfolio which currently sits in KnowledgeNET. We will continue to use many other tools to support learning and portfolios. We use a multitude of web2.0 tools to support the portfolio – wikispaces, timelines, digital story telling, and we use web storage to store video and audio files.
The tools are not important as it is just whatever tool suits the job in hand. What is important is the content, the feedback/feed-forward and what the student does next.
3. **Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**
Portfolios of progress and process of learning are kept by every student in the school. Also every teacher has a professional portfolio, using the same tools as the students. We started five years ago with two classes, then the following year all of Year 7, and the year following that was the whole school including teachers.
4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**
This was a combined initiative. It was started by a few passionate teachers and the principal at the time, who knew they needed to get the whole school on board if it was going to succeed. So there was a planned and managed drive from the top and from the bottom. This developed into a strategic plan which encompassed students, teachers, management, parents and community.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
We have always engaged with our community and this was no different. As part of student learning our community was consulted and was on board. We are a decile 9, so no real problem with hardware and access, but we did engage extra staff so that our Info Centre with all the school resources could be open to all students and staffed from 8am to 4.30pm.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
We have a strong pedagogy for e-learning at Bucklands Beach Intermediate and if we took the portfolio component out of the picture, nothing would change in practice in the classroom. So the portfolio sits within the bigger e-learning picture. We have many strategies in place for managing this. We have protocols for setting up class accounts on the internet and for publishing to the web. This is not only for the safety of our students, but also to help teachers and students locate their work easily. We believe the portfolio is a good place to pull these different locations together.
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**
Start with your pedagogy for learning. Get your infrastructure in robust working order, as frustrations are the biggest killer. Don't even begin the ePortfolio journey

until e-learning is established seamlessly in the classroom as part of everything they do. Sisomo (sight, sound, motion) is the strength of digital learning. There is no point copying work from paper to computer. Be very clear about the purpose of the portfolio. One size does not fit all. Use the best tool for learning, whatever it is.

8. **Do teachers have their own ePortfolios?**
Yes. They use it as a personal portfolio – it is not checked by anyone. They record progress of the goals, their personal professional development and their professional reading. They often use them in team meetings to refer to previous entries or to add to. Some use it as part of their personal CV.
9. **How has the pedagogy changed to take advantage of the ePortfolio approach?**
It is the other way around for us. Our portfolios changed to take advantage of our pedagogy. For nearly 20 years our students have kept reflective portfolios (on paper). We began introducing a digital environment to our staff in 2000, with the use of learning stations and have developed since then. In 2003 we introduced KnowledgeNET and wikis as a way of providing a MLE.
10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external ‘experts’ brought in to provide PD and/or training?)**
We have been in two ICTPD clusters, members of one from 2003—2005 and lead school of one 2007 —2009. We provide PD from the best source possible whether it is from within or without. Most of the work in developing portfolios (ongoing, and always under scrutiny and revision) has been from within with consideration of the work done by world experts and learning professionals.
11. **Can you recall any “quotable quotes” from students or teachers?**
12. **What has been the single-most important benefit the students have gained?**
Understanding and being able to talk about their learning. They know exactly where they need to go and how to get there. Also being able to share their learning 24/7 with family and friends leads to empowered students.
13. **What has been the single-most important benefit the teachers have gained?**
Improved student outcomes, students who can plan their own learning goals and know what to do to get there. Understanding students and their needs through more regular conferencing and personalized teaching.
14. **In the entire process what has been the most difficult barrier to overcome?**
Getting the infrastructure in place with no help from the ministry or government.
15. **What has been the most unexpected outcome (preferably positive) of the journey?**
Students who are excited about learning.
16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
Be clear about your purpose and make sure it supports your school pedagogy – don’t do it just because others are.
Do what suits your school, your students, your teachers and your parents. Find the best tool for you.
17. **If you were to start again, what significant changes would you make?**
Spend more time with teachers to guide/inspire them to develop a passion to change the way they teach.
18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
Not sure – how long is a piece of string? I’m thinking we are only just beginning. (1-2)

19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
Only if other things were already in place – e-learning pedagogy, infrastructure, need.
20. **What are the next steps for your school in your ePortfolio journey?**
Revise how we store student artefacts (currently by the school and on the internet, but in the future solely in the Google cloud). If successful, introduce to whole school in 2012. Continue the 1-1 device plan (students bring their own laptop, ipad, ipod).

Cornwall Park District School

Contributing primary, roll 660

Contributing primary, Roll 660

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**
KnowledgeNET (with eTap)
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**
We are using Learning Journals in KnowledgeNET, have just started using Vocaroo to record student responses orally and use eTap for sharing assessment data.
3. **Can you provide details of the extent and order of the rollout of ePortfolios (School-wide, Year levels, classes, or subject-classes)**
Teachers have chosen whether to use the Learning Journal tool this year ranging from Year 1 to Year 6. We will extend this to the whole school beginning 2011. Year 3 teachers have used the eTap – KnowledgeNET link and Parent Portal. This will be school-wide in 2011 as well.
4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**
Through an AP's suggestion with support of others in Management team – involved PD (voluntary Techie Breakies) and modelling and team teaching in classes along with the teacher. Word is spreading that the technical aspects of implementation are minimal and that children find Learning Journals very easy to use.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
Not a lot yet. Our Year 3 parents have been involved as they have had access to assessment data this year. This is something we hope to grow next year. We are aware that children are sharing their Learning Journals via their log in at home.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
Teachers use the vast resources within KnowledgeNET to support learning: forums, teacher/student made web pages, class blogs, galleries, digital learning objects etc. The Parent Portal in KnowledgeNET and link with eTap valuable although not seamless yet – still working on this.
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**
Our focus next year is not on the tool but on the depth and quality of the reflection, feedback and feed forward and maximising the learning opportunity the tool presents. We would like to see student/teacher/parent comments that reflect children's knowledge about their learning steps, success criteria etc. We have dedicated time to develop this with teachers and students next year.
8. **Do teachers have their own ePortfolios?**
Not currently, but I understand they are coming to KnowledgeNET. We are excited about this as a way of keeping a professional portfolio.
9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**
As above – we have recognised a need to extend and improve our current practice to assist teachers and students to record learning in ways that recognise specific learning steps and learning strategies that assist them in achieving learning goals.

We see the use of the ePortfolio as a way of individualising reflection and feedback which will support the pedagogical approach in the classroom and encourage children to become more self-directed.

10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external ‘experts’ brought in to provide PD and/or training?)**
Internal and ongoing – tied to professional development in formative assessment and in 2011 our journey to improve student achievement in written language. Using the tool is very simple – hardly any PD needed at all. Teachers involved in Parent Portal pilot were given internal PD and time out of the classroom to get to know the interface and make the additional annotations that added meaning to the data that was being presented.
11. **Can you recall any “quotable quotes” from students or teachers?**
12. **What has been the single-most important benefit the students have gained?**
An enthusiasm and pride in recording their achievements, challenges and reflections.
13. **What has been the single-most important benefit the teachers have gained?**
Seeing the ease of using the tool and the potential it has to enhance student achievement.
14. **In the entire process what has been the most difficult barrier to overcome?**
Time – some teachers (not all) see this as an extra. Hopefully through our PD next year we can help them to see it can be managed in a way that is beneficial to the students and an integral part of the classroom approach to learning.
15. **What has been the most unexpected outcome (preferably positive) of the journey?**
The teachers’ joy when they see how easy Learning Journals are to use!
16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
Start with the keen teachers – not necessarily those with confidence in IT but those who already have good formative practice in place and already encourage their students to think about their learning. They see the benefits in terms of student achievement and motivation and spread the word.
17. **If you were to start again, what significant changes would you make?**
We are still starting really – looking at strengthening our practice using the tool next year.
18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
Probably a 2 – long way to go – the potential is huge.
19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
Absolutely
20. **What are the next steps for your school in your ePortfolio journey?**
As above
 - establishing teacher portfolios
 - creating a school wide approach to determining content in different learning areas
 - strengthening our practice and understanding of the role of reflection and self-management in student learning

Fairfield Intermediate

Roll 785

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**
Ultranet. Originally some classes experimented with Wikispaces followed by Google Apps for Education. It was decided that Ultranet was a better choice for the sustainability of the school.
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**
At this point we are using the uSpace component of Ultranet although we are considering implementing the use of Mahara. uSpace is entirely private to the student, parent, teacher and 'buddies'. We would like an option for students to be able to share some folio items publicly. We would also like to encourage the use of Mahara as their personal portfolio that they will have complete ownership over.
3. **Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**
We have begun with a syndicate of four classrooms (digital 1:2 computers and laptop 1:1) and 1 other classroom. We have also been rolling out the concept of portfolio assessment and reporting processes across the whole school. It is intended to replace paper portfolios as we improve our infrastructure.
4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**
Our introduction was a combination of a structured approach by senior management supporting an enthusiastic teacher. It had been the intention of the Principal to implement something along the lines of ePortfolios but without the drive of an enthusiast; may not have happened.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
We introduced the concept of the ePortfolios early on to our school community. As our understanding increased and the use of the ePortfolio improved we began to provide information evenings for parents. Parents were provided with individual logons and access to parent portals. Students provided instruction to parents alongside discussions at open evenings and during student-led conferencing.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
When we were experimenting using Wikispaces, it was incredibly hard to manage a class of 30 individual students. The integration of SMS and LMS as part of the managed learning environment means that the students' folios are easily managed. As administrators this means we can better monitor and support the use and application of learning spaces within the LMS.
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**
Ensure that the infrastructure will support the level of intended roll-out. Allow the teachers that are leading the roll-out non contact time to administer and develop templates and school best-practice procedure.
8. **Do teachers have their own ePortfolios?**
We intended teachers to have their own professional portfolio. This is still in development stages as the tool develops to meet our needs.

9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**
It is integral to understand the relationship between successful ePortfolio practice and formative assessment and understanding of the implication of reporting to parents.
10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external 'experts' brought in to provide PD and/or training?)**
We distributed and discussed a number of publications/research on the value of ePortfolios. We also shared examples of ePortfolios and discussed the importance of this as a future development to support reporting to parents.
11. **Can you recall any "quotable quotes" from students or teachers?**
"An ePortfolio is easier than having one on paper because you can access it anywhere and out of school time and your family can see the work you are doing and the progress being made. It makes learning fun, in the way that you can use different tools to display stuff like videos etc" Tyla, 13
12. **What has been the single-most important benefit the students have gained?**
More independence and ownership of their learning. With this ownership comes responsibility and accountability and therefore they have had to become more adept at verbalising and understanding their learning.
13. **What has been the single-most important benefit the teachers have gained?**
All learning is purposeful and needs driven. We made the decision that all folio samples had to clearly state learning and success criteria (if applicable). This meant that teachers needed to know the purpose of the task.
14. **In the entire process what has been the most difficult barrier to overcome?**
For us it has been the disappointment of realising that our infrastructure can not meet the demand of the implementation. We have had to put any future whole-school development on hold until our internet and network is capable of managing the added load.
15. **What has been the most unexpected outcome (preferably positive) of the journey?**
The enhanced opportunity to develop self-direction in our learners. Students have been able to select their own artefacts as evidence of learning, therefore increasing their understanding of the learning process.
16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
Ensure it is driven by senior management and be certain that your infrastructure will cope with your intended roll out.
17. **If you were to start again, what significant changes would you make?**
I would ensure that teachers had a strong understanding of learning intentions and success criteria, and therefore formative assessment beforehand. It is good to have an idea of what you would like samples to look like from the beginning. Again, I would ensure the infrastructure was competent enough to manage the increased internet load.
18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
For me personally it is at about 8—9, for the school it is probably 2—3 and there are some teachers who fall between that range.
19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
I truly believe they are a valuable addition to my student's learning. I would ensure the school was ready as well as the community before attempting any roll-out.

Issues such as computers in homes and school infrastructure are important considerations.

20. **What are the next steps for your school in your ePortfolio journey?**

I have a personal interest in adding a Mahara portfolio to their existing uSpace ePortfolio. I believe there is a place for both. The uSpace portfolio has become a vessel for student assessment and learning. It is a private space that demonstrates the student's learning journey. There are process and product samples, clearly demonstrating progress and achievement. I would like the Mahara ePortfolio to be a culmination of the student's best artefacts. Almost like a CV, a representation of their strengths. This would carry with them throughout their schooling.

In terms of the school, we are looking into options to improve our infrastructure. Following this, we will look to introducing ePortfolios for all digital classrooms and begin to develop routines and expectations that will allow us to implement these successfully in other classrooms.

Ilam School

Contributing primary, roll 520

1. **Which ePortfolio tools do you use and if applicable which did you use originally?**

We started KnowledgeNET in 2008 using e-reflections, Learning stories and Assignments. This year the senior classes are trialling the Learning Journals in KnowledgeNET while the rest of the school is using Learning Stories. A blog was initially used also
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**

A blog was used so children could email up to the blog from home and we could also send pictures and text from a mobile phone. I also used the three aspects provided by KnowledgeNET above. As aspects were being trialled – a particular area/aspect of learning was allocated to each and the tool that seemed to best suit the purpose was used:

 - **the blog** was used to reflect on how different learning experiences impacted on children's learning eg EOTC and online activities;
 - **e-reflections** were used to reflect on goals set with links to evidence such as in writing;
 - **learning stories** were used in relation to the development of key competencies with links/images to evidence
 - **assignments** were used more as homework activities which could be posted online.
 - An **ePortfolio** page on KN had a table where links to paper-based work in each subject area were made (this was a transition period between paper-based and truly electronic portfolios)
3. **Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**

Roll out of ePortfolios:

 - In 2008 in one class, ePortfolios replaced paper based portfolios in as many areas as possible. Two other teachers used ePortfolios significantly also.
 - In 2009 all teams were expected to trial ePortfolios to some extent in their teams, but this was really only taken up by the senior team.
 - In 2010 all teams were to have ePortfolios included in their minimum requirements for the year and ePortfolios were included in our reporting to parents' calendar. Each class in each team received very high levels of in-class and/or individual one-on-one support from two deputy principals. ePortfolios were rolled out for every child in the school, with each child having at least three for the first half year.
4. **Introduction – when started and by whom: an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**

Bottom up approach with two enthusiastic teachers closely followed by a third in 2008. Direction from senior management for all teachers to be using ePortfolios came in 2010. Each team decided what aspects of their minimum requirements for the year would be presented through ePortfolios. Initial direction for use of KnowledgeNET for class pages and some administration needs came from management in 2007, so teachers could build familiarity with KnowledgeNET.

How we got there:

- Inclusion in our pedagogy, ICT action plan, minimum requirements and assessment schedule to an increasing degree from 2008. Online learning and web 2 tools were an integral part of our 2006 to 2010 Strategic plan
 - ICT contract (2006 to 2008): through this all teachers received PD on ICT tools and the school's vision and direction in 2007, then some teachers received PD on ePortfolios in 2008. Two of these plus one other went with the ePortfolio model and developed it with their own classes in 2008
 - 2009: in school PD and support offered through techie brekkies, team time, staff meetings and offered individually throughout the year, but not taken up very well
 - 2010: Two DP's available for considerable in-class support for ePortfolios, particularly Term 2. EPortfolios became a compulsory component of teaching and learning and the assessment schedule. Support followed the Model, Coach, Scaffold technique.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
Initial engagement took place informally with parents in the classes involved in 2008 and to a degree in 2009. A reporting to parent's booklet was compiled this year. This Booklet included information on student-led conferences, reporting against the National Standards and ePortfolios. Parents were encouraged to comment on their children's ePortfolios.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
Critical software for us is that which ensures successful interoperability between MUSAC and KnowledgeNET to ensure specific data can be automatically transferred from Classroom Manager to each child's ePortfolio page. This is currently not working for us. Equally important is software that ensures portability of an ePortfolio from one system to another. Currently we do not have this which is a real issue particularly for our Year 6 children leaving the school.
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**
Yes. There needed to be more accountability and higher expectation at an earlier stage and alongside this there needed to be a really specific action plan around ePortfolios
8. **Do teachers have their own ePortfolios?**
We are part of the Ariki project and all teachers used KnowledgeNET for their reflections in web diaries. However this is an area we would like to develop much further and apply to all areas of PD. We did try having blogs to reflect on PD in 2007, but this was really only taken up by a few.
9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**
It is mainly the methods you use to meet the pedagogical beliefs in a school that change; one of these being an increased level of ICT integration including ePortfolios. When 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.
10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios?**
PD on ePortfolios was offered as an option as part of our ICT contract in 2008. Representatives from each team took up this option, but ePortfolios were initially implemented by three teachers in the senior team.

11. **Can you recall any “quotable quotes” from students or teachers?**
From our principal for 2010: – A ‘*sand pit year*’
Our quote for 2010: – “*Twenty years from now you will be more disappointed by the things that you didn’t do than by the ones you did.*
So throw off the bowlines.
Sail away from the safe harbour.
Catch the trade winds in your sails. Explore.
Dream.
Discover.”
(Mark Twain)
From one child 2008: “*ePortfolios are much easier than our paper portfolios because you don’t have to spend all that time filing. Also we can look at them anytime we want*”
From a teacher who, was very unsure and insecure about using ePortfolios, when she was submitting her comments online said “*It’s so easy ...much easier than what we used to do*”
12. **What has been the single-most important benefit the students have gained?**
Choice of evidence they use to represent their learning.
13. **What has been the single-most important benefit the teachers have gained?**
The accessibility and interactive features of it, being able to comment online, go back and read it or share it with the children and wider family. It just gets built on as a collection over time and is great to share as a part of reporting to parents. The multi media aspect is particularly powerful.
14. **In the entire process what has been the most difficult barrier to overcome?**
In 2008: Getting buy-in to help drive the concept. This was overcome by approaching teachers individually and building up the confidence and expertise that way.
15. **What has been the most unexpected outcome (preferably positive) of the journey?**
Nothing really unexpected comes to mind.
16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
 - **A key issue is establishing the purpose.** What is the purpose of the ePortfolio; what does the school want it to be used for and how does it fit with the school’s pedagogical vision and values?
 - **The second key issue** is making sure there is a clear action plan in place; that teachers are accountable and that ePortfolios have a significant and integral place in your assessment schedule, your appraisal systems, your reporting to parents and your communication to parents
 - **Purposes of EPortfolios for us:**
 - be aligned with the school’s pedagogy, particularly with respect to formative assessment and SRL (self regulated learning) strategies
 - show evidence of student development in key competencies
 - track a learning journey and show the process of that learning
 - develop metacognitive skills through goal setting and reflection
 - construct meaning and knowledge
 - support learning through allowing for teacher, parent and peer comment, feedback, feed-forward and student self-reflection
 - celebrate learning and provide evidence of that learning

- enhance assessment to learn
 - support reporting to parents' procedures
 - provide the power of student voice
 - provide student choice and ownership of their learning
17. **If you were to start again, what significant changes would you make?**
Ensure implementation in each team was a specific requirement of the team leader's professional responsibilities; that it was a part of each teacher's appraisal requirements and that there was a specific action plan in place expanding on references made in the ICT Action plan and our teaching and learning journey. Also there needs to be more staff PD afternoons/days set aside so more compulsory PD can be available after the ICT contract finishes, rather than just having optional times being made available.
18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
This is a journey you are always on, always refining, reflecting, looking at ways to improve and to be more efficient. However as far as the competency level of all stakeholders, their buy in and the online contribution from parents, everyone really seeing it as an enhancement, having ePortfolios truly integrated into teaching and learning (including reporting to parents) and not an add-on, I would say we were at 5. There would be individual examples of much higher levels within the school
19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
Most definitely! I believe they are an essential component of teaching and learning, of sharing and collaborating with teaching and learning and providing opportunity for student choice, voice and ownership.
20. **What are the next steps for your school in your ePortfolio journey?**
- Our School Curriculum Framework and Teaching and Learning Journey 2011 (which will include ePortfolio components) to be created by the end of 2010, through consultation and collaboration
 - ICT action plan, which includes a component on ePortfolios, for 2011: draft already completed at the end of term 3...to be revisited
 - Further develop independence and evidence of deep learning in ePortfolios
 - Continue to model, coach and scaffold
 - Ensure sustainability in the school...growing new leaders

Challenges:

- Ensuring consistency of ePortfolios across the school allowing for flexibility in individual classrooms
- Ensuring analysis in learning stories is succinct, with a link to fuller version if required
- Interoperability with Classroom Manager: we need key assessment to be viewable in our ePortfolios
- Refining our online National Standards reporting
- Parent buy in, understanding and being active partners in their child's learning

Advantages:

- Archiving
- Hyper-Linking to evidence

- Metacognition
- Storytelling...telling about the learning journey
- Publishing
- Collaborating
- Online conversations
- Online Feedback
- Anywhere anytime access
- Interaction between peers, teachers and parents
- **“Capturing”** evidence
- **Multimedia:** All media types together in one location; video, still, audio, text, graphics, pdf
- **Student voice** and **student connection**

Pt England

Full primary, roll 540

- 1. Which ePortfolio tools do you use? And if applicable which did you use originally?**

Our school was an early user of KnowledgeNET and we still use it, mainly as a web aggregator, website host and document management system for the school as an institution.

We began using Google Apps for Education very soon after it became available for schools and were privileged to receive training at the Googleplex in Mountain View, California. Dorothy Burt became the first Google Certified Teacher and I had the opportunity to learn along with the person who was about to do the roll-out for Arizona.

Our school was also an early user of Blogger for education purposes and along with this used a number of Web 2 tools such as Flickr, Animoto and BubbleShare. BubbleShare later died a dot com death.

- 2. If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**

Pt England uses Goggle Aps for Education (GAE) because of its capacity to function as fairly complete managed learning environment and because it is able to be used as a whole of life solution. Because it is marketed at the granularity of the individual, not just at the institutional level it provides the student user the opportunity to keep all their work in their global Google Apps Account after they leave school, and they can then keep on using it. This along with the more extensive apps set included in this environment, makes GAE significantly different from other portfolio or LMS type offerings.

We continue to use all the other web 2 apps that we've developed the use of over time, with the chief of these being Blogger, because of its contribution to raised student achievement outcomes in literacy. As most will be aware, Blogger is now integrated with GAE.

- 3. Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**

We are in the process of a cluster roll-out of the GAE Teacher Dashboard designed by a collective partnership of teachers and Hapara Ltd. The company (Hapara Ltd) has carried out the build for and with us. This has ensured that teachers, parents and students all have confidence that the work generated in a digital environment is managed effectively with appropriate permissions, that the files behave in an expected fashion, and that feed-back feed-forward (so critical to effective learning & teaching) occurs in an intentional and orderly fashion.

Our challenge was to have an appropriate online or "cloud set of books" for our cluster students before we provisioned them with a 1:1 netbook programme. We are happy to say that this environment is now up and running. It is a more global environment than a digital portfolio alone and is our best attempt at emulating the analogue equivalent of the set of books in a student's desk. These behave in a manner that all parties expect and can understand. Our position on digital portfolios is that they are a slice of this more global activity.

- 4. Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**

This is a cluster approach involving all levels and layers of schooling including parents and Boards of Trustees. This has included co-construction with teachers

and our commercial partners, parent meetings via Home-School Partnerships, Board of Trustees meetings, Lead Teacher meetings and Staff meetings.

5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
We have been engaging with parents via our Home-School Partnership meetings, on this subject specifically, for two years.

6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**

We believe a Managed Learning Environment is the critical element and is significantly more important than an ePortfolio. The ePortfolio is a subset of this larger environment. Unless the Managed Learning Environment is well planned and thought out, well designed and well built, our students will have a raft of digital content spread across a plethora of web 2 apps. It will be difficult to locate content, will not be easy to locate by subject or group and will not have the structured feed-back/feed-forward that is so much a part of formative assessment.

Along with this, we believe that schools need to be matching the device to the environment to the education problem they are trying to solve. Some devices are fun, but they have little successful connectivity to a Managed Learning Environment and there is little evidence that they improve education outcomes. For example: If the problem we are trying to solve involves improvement in literacy, specifically writing, the device will need either a keyboard or excellent touch screen text entry and will probably need a minimum screen real estate of 8—10 inches. It will probably not be an X-Box.

7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**

Start with a strong pedagogical purpose based on the education problem you are trying to solve or the outcome you are trying to enhance. Think about ultrafast Broadband and digital or 1:1 classrooms. What do your kids need under the hood to really make a success of that? What do your teachers need to manage it? What do your administrators need to supervise it? What do your parents need to engage with it? We couldn't find that product so had to set about building it in partnership with others.

8. **Do teachers have their own ePortfolios?**

It is their choice. However, all have access to the Managed Learning Environment. We are concerned about the use of the ePortfolio construct because it is flavour of the month. We believe all these digitising developments should have the same ethical scrutiny and questioning, the same learning scrutiny and questioning as the analogues we have all been accustomed to. In the analogue world, not all learners want to keep a reflective journal or diary. It's the same in the digital world. What is important is that students' work and our work should be capable of being critiqued and receiving feed-back/feed-forward and the type of commentary that brings about improvement. If schools have a more globally managed learning environment, that reflective activity can easily be a daily or regular feature that is included with the actual work 'artefact'. The portfolio then might simply be a tagged, time stamped record of 'my cool learning'. For some kids and some teachers the portfolio will be a reflective journal about, and of, their learning; for some it might simply be the beginning of a very exciting and three dimensional CV.

9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**

Our pedagogy has changed in response to gathering evidence about what raised student achievement outcomes. This evidence led us to invest in an extensive 1:1

programme. It also led us to ensure that we had designed and provisioned a managed learning environment that would enable the evolved pedagogy to continue in a well organised fashion because the learning and working spaces were built to meet the learning design goals that we set. We ought not to be bending the pedagogy to fit a space. We should be demanding that our pedagogical design, when enabled by web 2 + (good) bandwidth will support and enhance the pedagogy that produces evidence of improvement.

10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external 'experts' brought in to provide PD and/or training?)**
We are in our seventh year of cluster PD delivered by internal experts who constantly reference their work against external studies and developments and in turn contribute to those external environments both in New Zealand and overseas.
11. **Can you recall any "quotable quotes" from students or teachers?**
"Hi Mr Burt, no-one is around and I'm lonely". (A 10 year old the day after they received their individual Google Aps for education account.)
To Mr Burt:
Sylvia and I would love to apply for the gardening job! The reason why we want to apply is so we can save up, for Year 6 camp!
We are responsible and trustworthy and would like to prove ourselves for the job. Our experience includes weeding and watering at home.
If you want references call Ashleigh Toetu'u and Grace Muaiava.
Some people say that girls can't pull out weeds and that we can't handle the jandal but we think that we can.
So please consider us for the Gardening Position!
Yours Sincerely, Sylvia and Ala
12. **What has been the single-most important benefit the students have gained?**
Empowerment, any time any place learning and significant gains in literacy outcomes.
13. **What has been the single-most important benefit the teachers have gained?**
Removal of barriers to collaboration, enhanced student engagement, improved opportunity for feedback/feed-forward, improved opportunity for two-way communication with kids.
14. **In the entire process what has been the most difficult barrier to overcome?**
Getting stuff designed and built, working with multiple government departments and providers to find a way to sustainably provision kids with 1:1 netbook devices. Getting Fast broadband.
15. **What has been the most unexpected outcome (preferably positive) of the journey?**
Amazing engagement across the board. Incredibly enhanced communication opportunities with incredibly enhanced communication challenges.
16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
Be very clear about the education problem you wish to solve or the thing you wish to improve. Don't bend your pedagogy for an online solution, unless it's an improvement.
17. **If you were to start again, what significant changes would you make?**
Wider and deeper Board of Trustees engagement sooner.
18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
I'm guessing at 3-4. (Don't know where the end is!)

19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**

No, I would work hard for a Managed Learning Environment and an ePortfolio might be an important subset of this. I think that if we don't get our MLE right, nothing will be really right.

20. **What are the next steps for your school in your ePortfolio journey?**

- Continue the roll-out of the GAE Teacher Dashboard for all Y5—13 classes in the cluster. Then explore how many lower year levels we can extend into.
- Continue the roll-out of student netbooks for all Y5—13 classes, then investigate the lower year levels.
- Begin the design and build of the full scale teacher environment in the same environmental domain as the students. This would include:
 - Teacher planning, and rubric design, association of rubric assessment with the student work artefact and other formative assessment, association of formative assessment with standardised norm data,
 - Association of all of those things with OTJ, association of OTJ with NS chart generator for schools, years, cohorts and individuals.
- After that we should improve on Space Shuttle Columbia (last flight tomorrow)

Red Beach Primary School

Contributing primary, roll 700

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**

We use the learning journals set in Knowledge Net, our Learning Management System

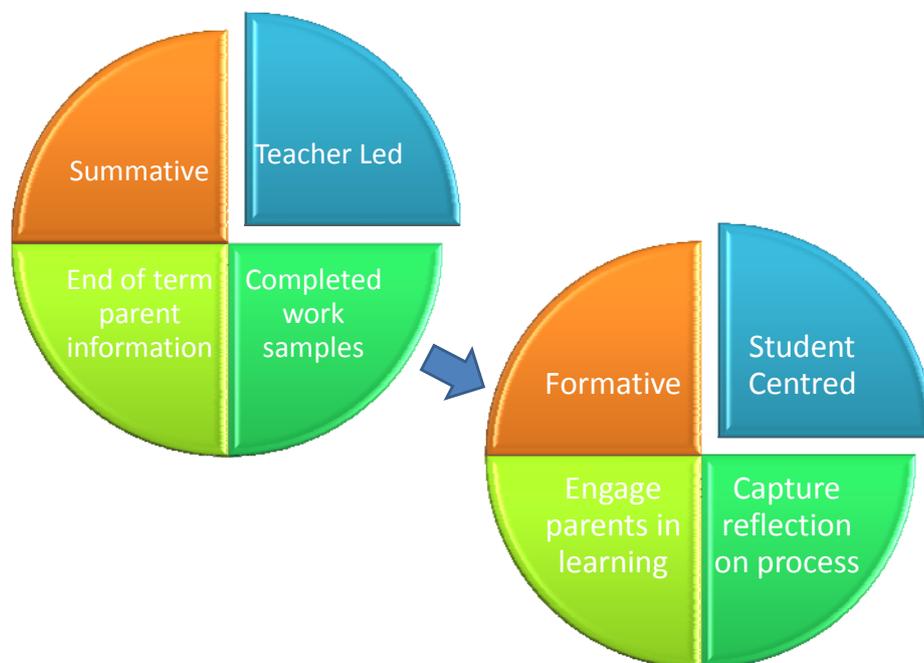
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**

No, just one tool.

3. **Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**

For the last decade, Red Beach School had operated an assessment system that included the publication of 'sample folders'. These were hard copy clear files where the children placed certain 'samples of work' collected during the school term that was then periodically taken home to be shared with parents. Although the intent was that the samples should merely be examples of everyday children's work, in reality, they were still seen by the staff and children as a bit of an event. At times it was a rushed job with teachers quickly setting 'assessment' tasks at the end of term, so that they could go in the sample folders. We were all very aware that they had become a chore for both children and teachers and even when they finally did get home, it was questionable whether they actually enabled any conversations about progress in learning. In many ways they no longer aligned with classroom practice that was becoming increasingly formative and learning focused.

The school's leaders were on the look out for something that would capture the students' growth over time, would involve student reflection and could stimulate feedback and feed-forward. Similarly we were keen to see how we could engage our parent community more in the real world of the learning-focussed classroom. The digital environment seemed to be the obvious answer.



Seven years ago Red Beach School had invested in the Learning Management System, KnowledgeNET and since this time has gradually been increasing its use in our school as a portal for all learning opportunities for students and staff. It was within this system that our then Deputy Principal, Sarah Martin first started

experimenting with an on-line reflection tool. Spurred on by the school's involvement with the Ministry of Education's trialling of inter-operability between this LMS and our SMS (MUSAC), she set about searching for the means to put ePortfolios in to place within KnowledgeNET. Using a small group of Y5/6 students she set up experimental learning hubs, forums for reflection about particular learning areas eg how is your learning going in maths?, student self-assessment tools and the like. The kids loved it but the technology was clumsy and the system not easy to maintain. After much discussion and dialogue back with Knowledge Net's developers (Dataview Ltd), the learning journal structure was developed. The learning journals are set within KnowledgeNET and involve a place for students to enter an artefact from a particular learning experience. In our case, these have usually been either a photo of their efforts eg page from an exercise book showing numeracy strategies or a piece of art work or sometimes an actual example such as a poem etc. Although the artefact is important because it gives the student something to focus on, it is the next step that really drives the journal. The student then writes a reflection about what was happening, how their learning went and what they might want feedback on. Over time, we have noticed that students do this at quite a shallow level first but then gradually with support and intentional teaching this deepens considerably. Selected peers then go into the journal and make comments on the same artefact and/or provide feedback. Similarly teachers and parents, who have their own logon to KnowledgeNET view the same entries and also are invited to make comments. It is this ability to have three-way conversations that is the one of the most exciting aspects.

The screenshot shows a web interface for a learning journal entry titled "GOAT ISLAND". On the left is a drawing of a green island with a blue sea and several people. On the right, there are three comment sections: "Teacher Comments" by Chris Bradbeer, "Caregiver Comments" by Ms Sun Mee KIM, and "Peer Comments" by Sophie PALMER DALE. Below the drawing is a "Student Comments" section with three entries from Justin VASILJEVIC, each with an "Action" dropdown menu. The browser's address bar shows "Internet" and a 100% zoom level.

Where we are currently at is the learning journeys were trialled in 6 classes in 2010 (2 Y6, 1 Y5, 1 Y4, 1 Y3 and 1 Y2). These are classes where we also placed a selection of notebook computers alongside the PCs that are already part of each of our classrooms. The teachers have tried implementing their learning journeys as part of their everyday literacy and numeracy programmes. It would be fair to say that they have been successful in the Y5/6 area but not quite so in the more junior classes. The IT skills required of the students and the demands of our own IT system made it tricky for younger students this year. We are now looking forward to launching a new version of KnowledgeNET which should alleviate some of these issues. However for those older students in these trial classes we have discovered some interesting and exciting aspects.

4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**

Our use of the learning journals grew from a sense of dissatisfaction with our old ‘sample folder’ system and a desire to bring to life our concept of “empowered learners” inherent in the school’s vision. The development was lead by senior leaders.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**

We have had a few “trial” periods engaging with parents; currently the parents of the trial classes are part of this development. The connection with parents although initially slow to kick off is now very positive. Active parent participants tell us that to actually be able to see the artefact that their child is talking about and to read their reflections provides a window in to the classroom that they have never enjoyed before. Logons for our parents and navigation around the system is still demanding for parents and once again we are hopeful that the new version of KnowledgeNET will simplify this even more.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**

Gradually over time our staff are developing and learning how to make extensive use of all that Knowledge Net has to offer. We are still working on ensuring that the interoperability between Knowledge Net and our Student Management System, MUSAC actually works seamlessly. Students, teachers and parents reflecting upon up to date assessment information flowing directly from the SMS is the dream!
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**

Trialling the learning journals with a small group of staff has been a successful change management strategy, especially as there have been technical glitches along the way. Initially engaging with staff who are keen and enthusiastic about the overall ePortfolio concept has worked well.
8. **Do teachers have their own ePortfolios?**

No, not at this stage, however we plan to introduce these soon.
9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**

The level of reflection for many students has grown significantly. The journals have enabled ‘talk’ about learning at a much deeper level than ever before and the children seem to be much more focused on exactly what is going on for them in their usual learning scenarios. Y5 Teacher, Lucy Finlayson says that “perhaps it is because they know they are probably going to reflect upon this particular maths experience for example, that they seem to focus more and are more engaged”. The children are honest about whether they have grasped concepts or not and seem to be more open to communicating this with their teacher, peers and parents. Lucy says that “they have changed the way the children communicate with me in person as well. A student may have made a comment that they did not really get that new idea on their journal yesterday; this allows the 2 of us to talk openly about this today.” It provides a feedback system between student and teacher that is open, individual and really honest. Consequently the manner in which the teacher engages with each learner, guides them and sets up subsequent learning experiences for them is greatly enhanced.
10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external ‘experts’ brought in to provide PD and/or training?)**

An initial session for the “trial” teachers as to the “how to”, then subsequent support group meetings. We set up sessions where the students in one particular Year 5 class who were moving quickly in implementing these journals, worked with the other teachers of the trial group.

11. **What are the next steps for your school in your ePortfolio journey?**
In 2011, we will implement our existing learning journals across all of our eight Y5/6 classes and work on how we would like it to look for our younger students. As in all changes within schools today, the implementation of learning journals at Red Beach School has not sat in isolation. In fact it would have been impossible without the language of learning that our students all share, assessment for learning practices that our teachers embed into everything and our own learning progressions that help students understand where they are and where they could go next in literacy and numeracy in particular. The learning journals are just part of the big picture of a learning-focused, student-empowered programme.
12. **Can you recall any “quotable quotes” from students or teachers?**
”The learning journals have definitely improved how you can do things outside of school and not just inside and achieve at higher levels than before” Sophie Palmerdale Y 5.
13. **What has been the single-most important benefit the students have gained?**
The children seem to be thriving on the feedback they receive, interestingly mostly from their peers, although feedback from teachers and parents is also valued. However the single-most important benefit would be the student’s ability to reflect deeply about their learning.
14. **What has been the single-most important benefit the teachers have gained?**
Having an insight in to each student’s actual learning
15. **In the entire process what has been the most difficult barrier to overcome?**
Overcoming the usual IT issues—enough access, wireless problems and the ability of very young children to independently use the tools
16. **What has been the most unexpected outcome (preferably positive) of the journey?**
The dynamics of the class have been positively affected: one example of this would be one of our less academically able boys actually seeks feedback from a girl in his class that in ‘real space’ he would have very little to do with. In the privacy and safety of his digital space he seems to respect what feedback she offers him and most importantly acts upon it. The ability for the teacher and the students to plan for future learning is greatly enhanced by the journals. Together the class share knowledge of each other’s learning—no longer is it just the role of the teacher to know where learning should go next.
17. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
Know what it is that you want to achieve
Start with a trial group
18. **If you were to start again, what significant changes would you make?**
Discussing with our students exactly what we are hoping to achieve, so that they are truly part of the development
19. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
6
20. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
Yes.

Ross Intermediate

Roll 460

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**
Mahara is where we have settled. We experimented with Moodle and Wikispaces originally as we were working out the roles of all the different tools.
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**
There is a school website which is the main information page for parents getting information.

Google docs is where content is created and collaborated. Wikispaces is being used optionally by some teachers as a classroom resource page and learning dispenser. Mahara is where students work is presented and reflected on.
3. **Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**
Originally new tools are tested by the two 1:1 classes. Mahara and Google Docs were rolled out school wide beginning of term 2 this year. Staff PD has continued since then.
4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**
There is a mix. Most ideas come from other people's recommendations and then having one keen teacher being able to prove that it works in their area. Senior management come on board once it is rolled out school wide. Largely, it is a bottom up approach.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
This is something that is not happening as much as it should. It will be a focus for next year. At times we have felt restricted by limitations in Mahara. We are only interested in rolling out to parents once they can engage meaningfully. Google docs will be an option we will look at for next year.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
Understanding what the role of each tool is. Largely this has to be done on a trial and error basis and would look different for all school. We only use Maraha for reporting, reflecting, and safe social networking.
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**
Need to have a core group of staff that are up to date. Also including students in it from the beginning to test things as they happen. Students are great explorers.
8. **Do teachers have their own ePortfolios?**
This is optional as some teachers are more interested in recording their professional journey than others. Hopefully this will be something we will explore next year with staff.
9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**
ePortfolios have linked in with our new 1:1 laptop classes. Pedagogy has changed rapidly as we look to make more use of the Mac books. There has been a shift towards more student-directed learning and pushing the responsibility of learning

onto students. We feel we are only at the beginning of this. There is still more to do.

10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external 'experts' brought in to provide PD and/or training?)**
Right now this has been done optionally through Saturday workshops run by the two teachers that teach in the laptop rooms. Again this is something that will happen across the school next year.
11. **Can you recall any "quotable quotes" from students or teachers?**
There would be hundreds. If anyone is interested in getting video reflections from the students then we would be more than happy to organise these.
12. **What has been the single-most important benefit the students have gained?**
Hopefully a greater understanding about how they learn, and where their learning is at.
13. **What has been the single-most important benefit the teachers have gained?**
Confidence in using computers. For the two laptop-room teachers, class management and organisation has improved immensely.
14. **In the entire process what has been the most difficult barrier to overcome?**
Staff PD – getting other teachers on board has been tough. This is an on going battle and we are making slow progress. Mainly from their point of view it feels like another thing to do in class, on top of an already packed timetable.
15. **What has been the most unexpected outcome (preferably positive) of the journey?**
Seeing the students have ways to talk about their learning between themselves without direction of teachers.
16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
Do not read about it – get in there and give it a go. Make sure students are involved at every step of the way. Talk to them about what you hope to gain. Let them be a part of the bigger conversations.
17. **If you were to start again, what significant changes would you make?**
No real changes. If we started again we would have a better understanding of the role of each tool so would not have to waste time sorting that out.
18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
5—6 out of ten. We have the tools and the infrastructure in place. We have an understanding of the direction we are heading. We just need to put all our ideas into action.
19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
Yes, we believe that this needs to be the way forward in education if we are to prepare students for the future they are going into.
20. **What are the next steps for your school in your ePortfolio journey?**
Consolidating what we have done so far. Roll out to all staff and improve their understanding of the direction the school is heading.

Tawa Intermediate

Roll 520

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**
We use MyPortfolio (Mahara), which we started with at the beginning of this year. It is the only tool we have used for ePortfolios.
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**
We are using Google Apps this year, and would like to be able to embed Google docs into ePortfolios. At present, we provide links only. We only use MyPortfolio (Mahara) for ePortfolios, but these fit into a broader plan of school-wide use of digital tools – LMS (Ultraneet), Google Apps, WikiEducator, class blogs on Blogger.
3. **Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**
We have two Year 7 & 8 classes who have been using ePortfolios since the beginning of this year, one with all students, the other with some students. They are used for weekly reflections and goal-setting, recording and supporting inquiry learning, show-casing achievements and evidence of learning, and students are setting up their own views as they please. A PLG (Professional Learning Group) of 7 teachers who have focused on MyPortfolio since the beginning of the year, have led school-wide professional development and have supported the rest of the staff in starting their own ePortfolios. At this stage, all staff have a professional learning view with their Performance Agreement and professional reflections. We use MyPortfolio for group forums for professional inquiry. Some staff use their ePortfolios extensively as an aggregation of their professional practice and learning, and to support classroom learning. We have started providing training to selected Year 7 students across the school so that there will be some skilled users in each class at the beginning of 2011.
4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**
Started with concurrent enthusiasm – Principal, who had inspired considerable development in the use of ICT over the previous few years, some teachers who had some knowledge of ePortfolios and their potential, two teachers who were very keen to trial them in 2010, combined with MyPortfolio being at the right stage of development. We saw MyPortfolio as the tool we had been waiting for, and saw the potential for it to be used by both students and adults in the school. From this, we had a structured approach at the beginning of 2010, led by a senior leader guiding the ICT Professional Learning Group, and two teachers leading the implementation of them with their classes.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
Parents of the two classes using them were kept informed from the start, and encouraged to engage with them at home. We communicated using the syndicate website and newsletters, and at learning conferences. Being MyPortfolio, there was no need for special support in the home. The rest of the community were introduced to them at an information evening and on open nights in the second half of the year.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
Facility to embed Google docs would enhance our use of it. A reporting tool embedded in the LMS to help teachers track students' use of the tool.

7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**

Begin with the teachers. If we believe that all are learners and that ePortfolios are an important digital tool then it is imperative that teachers use them first. Once teachers have their heads around how ePortfolios work then they are in a much better position to begin to use them with students. Start small with the students. Our initial intention of having them totally replace paper portfolios was completely unrealistic. Aim for just one simple view to start with, eg introducing yourself. Allow plenty of time to master the technical aspects of MyPortfolio first, identify student 'experts' who can peer tutor others.

There needs to be a bit of coercion to get staff, and some students, actually using them.

8. **Do teachers have their own ePortfolios?**

Yes – along with all other adults (support staff) in the school. All must have their Professional Learning Overview view with their Performance Agreement and weekly reflections.

9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**

The pedagogical thinking was already in place, but ePortfolios have supported our belief in flexible, personalised learning, student choice, engaging the home in learning, the inquiry approach to learning, collaborative practices both with students and teachers.

10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios?**

The initial staff were self-taught and/or used tutorials provided by MyPortfolio. They then provided hands-on sessions for the Professional Learning Group that in turn provided PD for all remaining staff and also made themselves available for 1 on 1 support.

11. **Can you recall any “quotable quotes” from students or teachers?**

We initially encountered resistance from some teachers:

“I personally think that this is a bit ambitious and will end up causing a lot of extra hours wasted in the classroom trying to set this up. I am struggling to use this website and I find it hard to get my head around.”

(This teacher later retracted his comment.)

...and enthusiasm:

“It's certainly pretty cool to think 5 year olds could have an ePortfolio which runs with them throughout their educational career. It's much more "high tech" than the scrapbooks and clear files my family have created.”

Student comments:

“I like my ePortfolio. It's fun and it's easy to use. Also the other teachers can see what we are doing and it's better than writing and putting it into the folders. I also like it because I like typing and I hate writing.”

“I like Mahara because we get to write our reflections, unit and goals and I find it easier to type and save in my work. It is also cool because we can decorate our pages with pictures and other things. When we do unit we can create links and pictures to make the page look better.”

“My ePortfolio makes writing fun and not boring. I used to hate doing blogs but I don't mind on my portfolio. I like that you can add anything you want, like stories etc.”

12. **What has been the single-most important benefit the students have gained?**

Ability to personalise learning – choices about how to record and present learning, when to access it, who to share it with, and choosing to create views of learning voluntarily.

13. **What has been the single-most important benefit the teachers have gained?**
A place to record, present and collate professional notes, reflections, resources, inquiry, and evidence of practice.
14. **In the entire process what has been the most difficult barrier to overcome?**
Getting teachers to 'play' with it themselves to become confident after they participated in the PD sessions. In the end, there had to be a bit of coercion in the form of a compulsory task to get it to happen.
15. **What has been the most unexpected outcome (preferably positive) of the journey?**
Students' enthusiasm – creating voluntary views, enjoying tasks they hadn't enjoyed before, eg weekly reflections, writing.
16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**
Develop a shared understanding about the purpose of them in your school first, but be flexible. We changed our ideas significantly when it came to putting them into practice.
The degree to which you can implement them is closely related to computer accessibility. As you engage the students and realise their potential, it puts considerable pressure on computer resources. You need to consider this in decisions about how many classes use them, and how extensively.
17. **If you were to start again, what significant changes would you make?**
No significant changes – just remain flexible as you put it into practice.
18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**
2? Have overcome some significant barriers, but have big plans.
19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
Yes – Probably wouldn't consider moving if I couldn't at least use them with my own class.
20. **What are the next steps for your school in your ePortfolio journey?**
At the beginning of 2011 all students will be supported to set up their own ePortfolio, including a profile page about themselves as a learner. We are planning on all students using a view to share and reflect on their learning journey in the specialist teaching area of our school.
Students will be able to bring their own computers to school next year, and we undertake to have all of them using MyPortfolio as the scaffolding tool for their eLearning.
Teachers will need more scaffolding for the actual implementation in classes.
Re-evaluate our initial intentions for ePortfolios and ensure that these align with what is actually practicable, and where they fit with paper portfolios.

Timaru Girls' High

Years 9 to 13, roll 450

1. **Which ePortfolio tools do you use? And if applicable which did you use originally?**
Mahara – Free to use, easy to use and familiar instantly through Facebook.
2. **If you use a blended approach of tools, can you provide details as to where each tool fits and how you use it?**
I've used Mahara alongside Moodle in course delivery. In the blended approach I see them having two very different roles. Moodle is used for course delivery to inform, direct and assess students, whereas Mahara is used by the students to present their work.
3. **Can you provide details of the extent and order of the rollout of ePortfolios? (School-wide, Year levels, classes, or subject-classes)**
We have a few teachers that are using Mahara and they are using it in different ways. I think that this is one of the great things about Mahara, it is very versatile.
 - One-off lessons
 - One-off projects
 - Storing a year's worth of files
 - Blogging
 - Reflecting on the year
4. **Introduction – when started and by whom – an enthusiast teacher (bottom up) or top down structured approach with senior management involvement and direction?**
Still bottom up. An enthusiastic teacher started to use it and then it has been developed further by other interested teachers and also through ICTPD opportunities.

There has been support by the senior management throughout the journey to share the success of the ePortfolios and discussions of whole school implementation are current.
5. **At what stage and by what means did you engage with the community re the ePortfolio approach and implications for hardware support in the home?**
We don't at this stage. Apart from emailing the secret URL, the contact with the community is not that great yet.
6. **An ePortfolio is not an island and sits within a space that we have often described as a managed learning environment. What do you regard as critical supporting or linking software to ensure the success of the ePortfolio approach?**
There are a few links to the ePortfolio that could be seamless. First is the link to the LMS where work can be quickly dropped into the ePortfolio by the student and also accessed by the teacher and also be selected peers.
The second link is through the parent portal. When the parent logs in and views attendance, reports, grades etc they should also have the opportunity to see examples of the work that the child has completed.
7. **Based on the experience of your school, could you make a recommendation for an improved method of introducing ePortfolios?**
I've spent lots of time with teachers this year on ePortfolios trying to remove barriers for them to be able to use them in the classroom. Some teachers have had five to six hours of PD and still say "I just need some time to sit down and really get my head around it". It's hard for teachers to do something in class that they don't feel that they know how to use, I tell them that the students will pick it up very

quickly but teacher confidence is the first massive hurdle.

One method I've used to get around this has been to team teach and I'll do the part of the lesson that they are not comfortable with and stay around after for support.

The teachers have learnt more in the one hour with the students than in sessions with Mahara. They've been amazed how quick the kids pick it up.

To help staff still lacking in confidence I've started a project with the year 9s during form time. This is to create a view on their first year at TGHS. I've asked them to include; profile, house, goals, interests, activities and join the 'Year 9 TGHS' group. The views are great and all very different; the students have started to comment on each other's views too.

I'm going to get two or three students to present this to staff in a couple of weeks.

The hidden agenda will also be that every year 9 can create a view.

8. **Do teachers have their own ePortfolios?**

A profile yes, but a professional ePortfolio, no.

9. **In what ways has the pedagogy changed to take advantage of the ePortfolio approach?**

Teachers are more inclined to use some of the e-learning tools more readily as students have a great way to present them.

Students are creating a representation of their work. This is a real reflection on the project or topic that they have done. They are selecting their best pieces of work for the ePortfolio and showcasing them.

10. **What PD did you provide staff to help them understand and apply your approach to ePortfolios? (Eg mainly internal, or external 'experts' brought in to provide PD and/or training?)**

External PD sessions with staff from our ICTPD cluster

- Team teaching in the school with interested staff.
- Internal sharing sessions with staff in the school showing how they are using them.

11. **Can you recall any "quotable quotes" from students or teachers?**

When I have heard the kids talking about using this they were really buzzing!

12. **What has been the single-most important benefit the students have gained?**

A social networking tool that is built with education in mind

13. **What has been the single-most important benefit the teachers have gained?**

Engaging the students and having somewhere to put digital pieces of work.

14. **In the entire process what has been the most difficult barrier to overcome?**

Scared teachers

15. **What has been the most unexpected outcome (preferably positive) of the journey?**

Students taking pride in their work.

16. **What would be the two most significant tips about implementation that you could provide a school similar to your own?**

Team teach with someone technical.

- Teach all the students how to do it early on so that teachers have students that know how to do it. Then teachers can teach their subject and not Mahara.

17. **If you were to start again, what significant changes would you make?**

Teach all the students first.

18. **Considering the journey so far, on a 1—10 scale, how complete is it? (With 1 being the start of the journey)**

- Me personally: 6

- Whole school: 3
19. **If you moved to another school that did not use ePortfolios, would you work hard to secure their implementation?**
They will always be in my lessons. As part of my role, I encourage any teacher that is interested and unless there is a real tech-savvy member of the Senior Management Team it can't come from the top.
20. **What are the next steps for your school in your ePortfolio journey?**
Sharing experiences with staff about how they can be used and supporting any staff who want to use them.

15. Appendices

Appendix I – Classical descriptions of ePortfolios

It is common to find ePortfolios classified by type and we include some descriptions below from several sources. These include:

- the Australian ePortfolio project final report August 2008
- Penn State University
- Dr Helen Barrett
- Singapore Ministry of Education

The examples illustrate numerous approaches to the ways in which ePortfolios can be used as well as the variation in the terminology. It follows that:

- each institution is different
- there is no one correct model
- younger learners' focus may be a learning journey
- older learners' focus may be more on the destinations along the way

The approach being followed by the New Zealand Ministry of Education is to recommend an ePortfolio that can be used in all of the following ways by virtue of its facility to provide a unique 'view' (or mix of artefacts) for a specific audience.

Australian ePortfolio project

Presentation ePortfolios

- Used to evidence learning or achievement to an audience in a persuasive way.

Learning ePortfolios

- These often have a prominent reflective component and are most often developed in formal curricular contexts. For example, secondary school students might be asked to develop a learning ePortfolio that tracks and allows them to reflect upon how their technology skills improve over the course of a year.

Personal development ePortfolios

- Contains records of learning, performance, and achievement which can be reflected on, and outcomes of that reflection, including plans for future development. This could include a learning ePortfolio, but goes beyond that, as it is often related to professional development and employment, so also possibly used as a presentation ePortfolio.

Working ePortfolios

- A working portfolio is the larger archive from which the contents of one or more ePortfolios may be selected. The whole of a working ePortfolio is generally accessible only to its owner, while views are made accessible to other individuals and groups.

Penn State University

The ePortfolio process

'Collect, Select, Reflect, Publish'

Penn State University describes the ePortfolio process as a fitting slogan for the steps involved in creating the online representation of an individual's work and thoughts. Each step in the process is a crucial part of the development of an ePortfolio. (The following descriptions are based on the Penn State definitions of *'Collect, Select, Reflect, Publish'*)

Collect

- The process of gathering evidence of academic, professional, or personal growth; projects from classes, certifications and work from co-curricular activities are all examples of evidence. For an ePortfolio, a piece of evidence must be in a format accessible on the Web.

Select

- Many of the artefacts held in the ePortfolio represent some aspect of an individual's thoughts and growth. The owner has to select those pieces of evidence that are most representative of his/her work and appropriate for the particular audience (specific view). The view provided should not be repetitive, but neither should it under-represent the skills and learning of its creator.

Reflect

- This step involves reflection and discussion of what an individual has learned. An ePortfolio is not just a collection of work and evidence. It should also contain evidence of academic, intellectual, and personal growth. It is important to link the lessons learned and the growth achieved to the evidence of work presented. An ePortfolio isn't just about what has been done; it is about what has been learned and the way forward.

Publish.

- This is the where the specific views are made accessible to the community or to the Web-viewing public. Careful consideration must be given to the intended audience of an ePortfolio, and the potential impact of the evidence presented.

Helen Barrett

- Level 1. portfolio as storage (collection of artefacts)
- Level 2. portfolio as workspace (collection plus reflection/metacognition, organized chronologically)
- Level 3. portfolio as showcase (selection, summative reflection and presentation, organized thematically)

Singapore Ministry of Education

	Learning ePortfolio (Formative Assessment)	Showcase ePortfolio (Competence)	Assessment ePortfolio (Summative Assessment)
Purpose	To capture the process and growth of pupil's performances over time with the intention to improve the learning.	To present the pupil's best work for a particular subject, curricular activities, talent, etc with the intention to demonstrate competency level.	To assess pupil achievement with the intention to grade and/or promote to next level.

Appendix II – ePortfolio research findings

U.S. Department of Education
Office of Planning, Evaluation, and Policy Development
Policy and Program Studies Service
Center for Technology in Learning, 2009

*Evaluation of Evidence-Based Practices in Online Learning:
A Meta-Analysis and Review of Online Learning Studies*

The guiding research questions

1. How does the effectiveness of online learning compare with that of face-to-face instruction?
2. Does supplementing face-to-face instruction with online instruction enhance learning?
3. What practices are associated with more effective online learning?
4. What conditions influence the effectiveness of online learning?

Findings (not a complete list)

- Students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction.
- Instruction combining online and face-to-face elements had a larger advantage relative to purely face-to-face instruction than did purely online instruction.
- Studies in which learners in the online condition spent more time on task than students in the face-to-face condition found a greater benefit for online learning.
- Elements such as video or online quizzes do not appear to influence the amount that students learn in online classes
- Online learning can be enhanced by giving learners control of their interactions with media and prompting learner reflection
- Providing guidance for learning for groups of students appears less successful than does using such mechanisms with individual learners.
- Research on incorporating quizzes into online learning does not provide evidence that the practice is effective. (Two studies suggested that whether or not quizzes positively affect learning may depend on the presence of other variables)

Technologies can support any of these three types of learning experience:

- **Expository instruction**—Digital devices transmit knowledge.
- **Active learning**—The learner builds knowledge through inquiry-based manipulation of digital artefacts such as online drills, simulations, games, or microworlds.
- **Interactive learning**—The learner builds knowledge through inquiry-based collaborative interaction with other learners; teachers become co-learners and act as facilitators.

Trent Batson (AAEEEEBL.org)

Reflection and the ePortfolio

Educators have long recognized that meta-cognition is perhaps the best way to describe what students must gain before they graduate from college. The ability to see different points of view, to stand back and look objectively at your own work or even your own self, to choose wisely what is not only good for you but for others affected by your choice, and therefore the ability to keep learning, is inescapably the key thinking ability that marks you as a college graduate. Meta-cognitive skills and habits can develop in any discipline, be it physics or writing, math, or philosophy. The collection of work in a portfolio offers opportunities for students to reflect on their own work over time, which is perhaps the most powerful and meaningful advantage of the portfolio for learning.

A definition (Trent Batson)

...a method that augments learning trends of today and also helps academia deal with the overwhelming quantity and variety of work artefacts today

Becta June 2007

Impact study of ePortfolios on learning (full report – 118 pages)

- Engagement and motivation (primary-aged students much more so than secondary)
- Goal setting and reflection (primary-aged students much more so than secondary)
- Feedback, collaboration and communication (primary-aged students much more so than secondary)
- Storing and presenting evidence (primary-aged students much more so than secondary)
- Attainment (primary-aged students much more so than secondary)
- Progression and retention (primary-aged students much more so than secondary)
- Self-esteem

Becta March 2007

The impact of ePortfolios on learning

- learning outcomes
- learning processes
- recording and storing evidence
- organising and planning
- reflecting, feedback and collaboration
- presenting and publishing
- attainment
- engagement and motivation (The potential for these processes to remove barriers for underachieving learners is particularly high)
- retention
- creativity
- self-esteem
- personalisation
- lifelong learning and transitions
- efficiency

Becta Conclusion: The potential for ePortfolios to support learning derives from the many processes that they enable, including:

- recording and storing evidence and resources for learning
- reflecting on particular items or on a bank of evidence created over time
- giving and receiving feedback
- collaborating with others
- selecting evidence for presentation
- communicating learning outcomes and personal identities to a range of audiences.

JISC: Effective practice with ePortfolios (2008)

An ePortfolio is the product, created by the learner, a collection of digital artefacts articulating experiences, achievements and learning. (Note use of term “product”)

An ePortfolio is a purposeful aggregation of digital items – ideas, evidence, reflections, feedback etc, which ‘presents’ a selected audience with evidence of a person’s learning and/or ability.’ Sutherland, S. and Powell, A. (2007), Cetus SIG mailing list discussions [www.jiscmail.ac.uk/archives/cetus-portfolio.html] 9 July 2007

Appendix III – The Role of ePortfolios in Formative and Summative Assessment

Report of the JISC-funded Study (Centre for Recording Achievement for JISC August 2009)

- **What is assessment?**

- The essential meaning of assessment is the act of making a judgement about the value of someone's product or performance. ...The act of assessing might take place at one point or over time. The product or performance is generally a demonstration of some combination of knowledge, understanding, skill; sometimes of values and other personal attributes; and is very often taken to be a representative sample of the assessee's 'usual' or normal' performance: that is, **it is assumed to represent some underlying and stable level of knowledge, skill or ability, or some consistent personal attribute.**
- **The terms 'formative' and 'summative' do not describe different types of assessment.** They refer to the purpose of the assessment, the use to which it is put. The summative purpose of assessment is to identify educational achievement as a matter of public record, for use in selection (for employment or further study) and certification (for example, of fitness to practise a profession). The formative purpose is to provide information to the learner and others concerned with the process of learning about the learner's progress, strengths and areas for improvement. **Practitioners often refer to assessment used for formative purposes as 'feedback'.** The term 'diagnostic assessment' generally refers to assessment which takes place before a period of learning, to provide advance information to the tutor and learner about the learner's prior knowledge and skills and what might be an appropriate starting point for new learning. **An increasingly common term which would include both formative and diagnostic purposes for assessment would be 'assessment for learning'.**

Other views of assessment (*Victoria State Department of Education and Early Childhood*)

- *Assessment for Learning* – when teachers use inferences about student progress to inform their teaching
- *Assessment as Learning* – occurs when students reflect on and monitor their progress to inform their future learning goals.
- *Assessment of Learning* – occurs when teachers use evidence of student learning to make judgements on student achievement against goals and standards.

Appendix IV – Frequently asked questions

1. **Who uses ePortfolios?**
Schools, higher education institutions, teachers' colleges, teachers. They are also very applicable to any occupation where a record of experience and on-job training is required – eg nursing
2. **What is the real cost of implementing across the school?**
The biggest cost is time. All teachers must be on-side and accept that a learning curve is inevitable. But many schools fail to appreciate the extra time commitment the 'champion' teachers incur, and regularly fail to relieve them of some of their other tasks.
3. **Are the costs on a per student basis?**
Usually, but the Ministry is funding the hosting charges of MyPortfolio.
4. **What do we stop using or doing if we start using ePortfolios?**
Using ePortfolios is a change in the pedagogical approach to teaching. So nothing stops, it morphs into a more student directed style of learning.
5. **Is this part of a school's ICT strategy or curriculum strategy?**
It certainly should be integral to the curriculum strategy and ePortfolios are multimedia friendly so the staff and students will also grow their ICT capabilities.
6. **What technology is essential?**
Good connectivity (broadband network) and for equity a good supply of computers in the school and home.
7. **Does this mean another server?**
If the server is delivering to your current requirements then no. Much of the processing is 'cloud based'. Do keep in mind though that multimedia needs can use extra computing power.
8. **Do we need broadband?**
Yes, at school and in the home – see also question 58.
9. **What are the really critical considerations?**
You consider ePortfolios when you are ready, the staff comfortable, everyone knows why you are doing it and the hardware requirements are met. – What the school down the road is doing is not a consideration in the timing of your decision.
10. **My ICT teacher says web 2 tools are all we need?**
Refer to the school profiles – that is an approach that some have taken and discarded and others are still vigorously pursuing.
11. **Is this a senior leadership decision or can I leave it to my technician and office lady?**
This is a senior leadership directed decision – it pays to also have enthusiastic staff.
12. **My school is growing – are these systems scalable?**
Absolutely! Most schools start small and introduce ePortfolios throughout the school over one to two years.
13. **Do we need new policy on privacy and security?**
Your school should have a policy now. Students and staff will certainly need reminded about their growing online footprint and the associated risks. The school also needs to consider online communication protocols to ensure all communications are kept at an appropriate and professional standard.
14. **How secure are ePortfolios?**
As secure as the least responsible staff member or student! Interestingly initial

evidence suggests students are much more responsible about passwords when they use ePortfolios. It is hoped teachers show the same pattern.

15. **How do they link to my SMS and or LMS?**
They don't link to the SMS. However it is possible to send material from an ePortfolio to the LMS (and back). If an assessment is presented for marking or comment then the teacher can comment and return it, or mark and record the mark in the SMS. Such transfers are time-stamped for verification.
16. **Is it essential for teachers to use and understand the concepts?**
No, but it is highly recommended. It is very beneficial for a teacher's own use as well as the understanding of the process the students are following.
17. **All the local schools use the same SMS – should we be doing the same with ePortfolios?**
We are supporting the concept of a national ePortfolio, so this would be a good idea providing the one chosen is MyPortfolio.
18. **Does one ePortfolio tool satisfy all the possible things that people do with ePortfolios?**
One of the advantages of MyPortfolio is that it can present *page views* for specific purposes and specific audiences. Its remixing ability means it can be an ePortfolio for any purpose.
19. **Is the choice really one of budget – that is do I get what I pay for?**
No! The product the Ministry is supporting will have its hosting charges paid for you.
20. **What changes in pedagogy are required?**
The switch is to evolve pedagogies encompassing self-directed, student-centred learning, reflective practice, formative feed-forward assessment with collaborative, constructivist working
21. **What facts and figures should I be recording now so that I can eventually see the effect of introducing ePortfolios?**
Much of the change is to do with the enjoyment of an approach that leads to enhanced learning. This is attitudinal and looking towards developing students as life-long learners. The results are going to be shown by the changing attitudes.
22. **Is an ePortfolio just a digitised paper portfolio?**
No. They are very different – see Section 2.
23. **In what ways are they different and how do these differences translate into better teaching and learning?**
See Section 3.
24. **Are there different ways of using ePortfolios?**
Yes there are. We believe that MyPortfolio is suitable for all of the ways in which an ePortfolio can be used.
25. **Are there particular ages or levels where the type of ePortfolio used changes?**
ePortfolios used by young children tend to be strongly 'showcase' styled. This type of ePortfolio perseveres for all ages and may become a CV for an older user. Much of the work done by older students is process and or assessment oriented
26. **Can we use different ePortfolio tools for the different age-levels in our school?**
Over time we believe that the one tool (MyPortfolio) will be used at all age-levels.
27. **What comes first – the tool or the pedagogy?**
They occur together, the changing pedagogical approach is a reflection of the way you use the technology the tools offer.

28. **Is it useful to document our implementation and record what we got right, wrong and could have done better?**
It is if you are going to assist another school to learn from your process.
29. **Are there specific aims and objectives that someone else has already documented that we could borrow?**
There are specific processes that schools have followed – see the schools that provided profiles of their ePortfolio journey. Each school really needs to examine its own needs and develop appropriate objectives.
30. **Do all schools have the same purpose in implementing ePortfolios?**
Generally yes, but the journey can be quite different.
31. **Who is the audience, or are there lots of audience groups?**
For students there are multiple audiences including: teachers, peers, family, friends, and employers.
32. **How many schools use ePortfolios now?**
Lots of schools (more than 500) have access to ePortfolio tools but are not necessarily using them, or a very limited number of teachers have introduced them to their students. The number of schools making extensive use of them is still quite small. The interest however is extremely high so the numbers will grow quickly.
33. **What numbers are using each of the available tools?**
We don't have exact numbers for ePortfolio use. We can only estimate it from the numbers using products like KnowledgeNET that have ePortfolios modules and the number of schools we know to have downloaded Moodle. Schools using Ultraset number approximately 220, KnowledgeNET approximately 200, MyClasses approximately 40 and Moodle 110.
34. **What advantages does an isolated ePortfolio offer over an integrated tool within an LMS?**
MyPortfolio is student owned which is a basic tenet of digital portfolios, it is able to move with the student, its hosting is funded by the Ministry and we are developing better operability between MyPortfolio and learning management systems.
35. **What implementation strategies can we follow?**
Read the attached schools' profile pathways.
36. **What does peer-reviewing really mean – it sounds like cheating?**
Peer reviewing is regarded as a very powerful learning tool. Students quickly learn that other students can contribute through their comments to what has been presented. They can learn directly from this or learn from processing a response (i.e. a justification) to the original work presented. Peer-reviewing and responding to peer reviews are key development and learning skills.
37. **I'm not sure collaboration and parents helping is the way a student gains independence**
The collaborative approach is to increase the opportunities the student has to hear different views about the topic under discussion. The sharing of knowledge and additional viewpoints provide the student with a much richer picture of the subject.
38. **Are parents involved?**
Parents that are involved, particularly for younger students have reported a greatly increased understanding of their child's learning. Education has lost its mystique!
39. **Is the ePortfolio topic a community issue?**
Yes it is. Community understanding of the school's aspirations may encourage parents to support their child with better access to a computer for example.
40. **Can ePortfolios be used for assessment – how?**
Yes they can. Students can combine various artefacts from MyPortfolio and present it as a view to a teacher. The teacher is able to retain and assess this

'view' and will also be able to timestamp it for verification as the 'assessed' piece of work.

41. **What happens when the student changes school?**
MyPortfolio can be used throughout a student's time at school and while at higher education. Eventually we believe such an ePortfolio will be able to be retained for life. This is not possible, or at best difficult to do, with ePortfolios integrated into learning management systems.
42. **Do the different ePortfolios 'talk' to each other?**
Not directly. We are investigating what would be required for data to flow from MyPortfolio to a learning management system. Even though the LMS contains an ePortfolio, it does not mean data can flow between different ePortfolios.
43. **What about new students coming into my school?**
If they used MyPortfolio in their old school then all that has to happen is that it will now be changed to link to your school rather than the one the student came from.
44. **What age does a student have to be to self-direct his/her ePortfolio?**
There is no hard and fast rule, but probably before secondary school.
45. **Do teachers have open access to their students' ePortfolios?**
No; but it depends on a student's age. Obviously the younger the student the more the teacher will assist and therefore the more access a teacher has to have.
46. **Does it work for all subject areas?**
Yes. Technical and scientific areas of work may require more multimedia skills but can still be accommodated.
47. **How does it work for drama for example?**
Drama is even better suited than technical.
48. **What about Māori immersion classes – is a Māori version available?**
Not yet, but it is planned and not very far away.
49. **Who owns the ePortfolio?**
As age increases the ownership becomes absolutely the student's. However students still have to make available (to teachers) any material that teachers would normally expect to access in a non-digital world.
50. **Does the collaborative approach reduce a student's independence?**
Current thinking is that it increases it through the ownership that students develop about their own learning and progression.
51. **What research can I read to confirm what investigation has ever been done about this (reducing a student's independence)?**
Read Appendices II and III and refer to the complete articles.
52. **Does this mean we will be able to access better information from our contributing schools about our incoming students?**
Not necessarily, but students will have better attitudes to learning, more independence and be accustomed to taking responsibility for their learning. Teachers may be able to see some of the students' ePortfolio material so it is possible to access background learning.
53. **I have ICT literate and illiterate staff – can I introduce ePortfolios to only the literate until I am satisfied that it is the right move?**
That would be one way of approaching the change. It would seem sensible to have a buddy system set up, perhaps within departments or year levels so the literate could encourage the illiterate to come on board.
54. **Can you transfer the content to DVD when a student leaves school?**
Some schools do this now. It is time consuming and the contents may be difficult to

access without the original software. With MyPortfolio this is not necessary – see question 41.

55. **Has anyone determined if this is worthwhile – do students ever refer to previous school work in transferring from primary to secondary for example?**
We have had numerous cases of students being disappointed on starting secondary school that they cannot continue with their ePortfolio. MyPortfolio should overcome this.
56. **What is a view?**
The ePortfolio contains lots of artefacts including audio, video, scanned images, photos, documents, comments etc. These artefacts can be combined in any combination to present a page view that can be made available to a specified audience. The artefacts remain available for the student to continue editing or remixing etc.
57. **If the student can determine who sees and has access to what – who checks the suitability of the content that the student doesn't share?**
The student does.
58. **Would staff need broadband at home?**
If the staff want to keep their own ePortfolio and be able to interact with students remotely then the answer is yes.
59. **Does the use of ePortfolios lead to more staff-student contact outside of school-hours?**
It has the potential for this to occur and part of your policy has to make clear the boundaries for appropriate times for e-communication with students.
60. **Do we need a policy for the informal interactions that occur between students and teachers?**
Absolutely, this is very important – see also question 59.
61. **Do changes in the school culture have to occur?**
In the teaching culture, yes. Staff will learn that it's not the technology itself that requires different pedagogical approaches; it's the innovative and new ways that are emerging of how to make best use of it.
62. **Where can I find the research to see the impact ePortfolio inclusion has on students' learning and achievement?**
Refer to Appendices II and III and consider reading the entire articles
63. **How many years does it take for established teachers to adapt to the new practices?**
Research indicates teachers realise after two years that their approach to teaching has changed. Students of these teachers say it takes the teachers longer than that to really make significant changes! I.e. according to the students, teachers rate their own teaching practice as better than the students rate it.
64. **If we run a pilot is it best to follow a year group for two to three years?**
In that time the entire school should be up and running.
65. **I'm still not convinced – is it essential for me to understand why we are doing this before starting with ePortfolios in my school?**
Yes, it is essential that senior leadership strongly support and understand the initiative and participate as appropriate.
66. **Is the school responsible for backing up the students' ePortfolios or do they have to take on that responsibility?**
That is one of the advantages of a cloud-based service – the backup is taken care of.

67. **Can ePortfolio content be transferred to other programs, like Word for example?**
Not easily and that is certainly not the intention.
68. **Is an open-source hosted system reliable enough to use?**
As some schools in Christchurch found during the recent earthquakes; the only applications that could be accessed were cloud-based. One of the schools that has written a profile uses virtually only open-source software.
69. **We use Google aps – do we need anything else?**
Refer to the school profiles, one school uses Google aps extensively, others include a place for Google-aps.
70. **Can parents see their child's ePortfolio?**
As the age of the child increases, the parent access decreases. The student can provide views to the parent, but ePortfolios are owned (and controlled) by the student.