An inquiry into the implementation and use of e-portfolios, in order to enhance student learning, assessment and reporting effectiveness.

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Acknowledgements:

Executive Summary:

"An e-portfolio can be the catalyst to stimulate and motivate students and to have them more highly engaged in their learning. It can assist them see greater relevance in their learning. It can support the development of 21st century skills while encouraging creativity and innovation. In this age of information explosion it can help with the development of skills to process information and determine its relevance. It can encourage students to explore multiple answers to a range of issues. It can develop their ability to reflect on their learning and to set their own future goals. It can be a vehicle to help develop self-esteem through the sharing of quality work with feedback from a variety of sources. Mostly however the e-portfolio can assist students understand that learning is something they do, it is not something that teachers do to them. They become empowered to take a greater degree of control over their own learning and move further along the path towards being truly confident, connected, actively involved, lifelong learners." Fox, 2008.

The above quote provides a compelling argument for the integration of e-portfolios into a school's teaching, learning, assessment and reporting strategies.

This report will outline why schools have implemented e-portfolios, how they have gone about it, and what benefits and other outcomes are occurring for their school communities.

Purpose:

The purpose of this inquiry is:

- to investigate the utilization of electronic portfolios with students, to learn about how they can enrich the learning, assessment and reporting processes, with a view of implementing these strategies into our school

- to hear about other schools' journeys that have led them to use e-portfolios, and to learn about their readiness, implementation strategies, as well as take heed of their advice as they reflect on what was planned and what the outcome actually was.

Rationale and Background Information:

"Despite (frequent) comments that e-portfolios 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." (New Zealand Ministry of Education, 2011)

An e-portfolio can be described as:

"…an electronic format for learners to record their work, their achievements and their goals, to reflect on their learning, and to share and to be supported in this." (Banks, 2004)

Fox, (2008) states that, *"Definitions of e-portfolios vary considerably but in general they refer to the electronic gathering of student work collected and stored in some electronic format."*

For the past 8 years or so, considerable professional learning has occurred in our school in the areas of formative assessment, inquiry teaching and learning, the use of thinking strategies, information and communication technology. All of this development is focussed strongly on student centred learning; involving students in what and how they learn, and encouraging reflection about the learning process. In more recent years, Student Led Conferences have been introduced, which have enabled students to report on, and discuss their own learning achievement, and to share goals for future learning with their teacher and parents. Each of these learning and teaching strategies is aimed at gaining a high degree of student engagement in their learning, as well as encouraging "student voice" as an integral part of the learning process.

For a number of years, our students have recorded their learning journey in a paper based portfolio which, once completed at the end of each year, is then sent home to be stored as an example of a year's achievement. The purpose of the portfolio is primarily a "showcase" document, giving examples of achievement. While there is a desire to showcase what the students have achieved, some efforts have been made to include an illustration of the learning process that has occurred. This has

happened through the teacher recording the learning purposes and the expected outcome related to the New Zealand Curriculum objectives. A teacher and parent reflection on the learning is included, but while some student self assessment happens, little student reflection is provided in this portfolio. As teachers, and as a school, we acknowledge that these portfolios belong to our students, but they lack any real student input, other than some guided choice of the artefacts to be included, and some self assessment examples.

This form of gathering learning achievement information requires a very structured approach, and provides for little flexibility in terms of the range and types of examples that are possible to include. While most parents (particularly those of the younger students) like the current portfolios, they (the portfolios in their current form) are unable to fully reflect the current pedagogy that exists in the school.

Methodology:

Two main areas of research and investigation were undertaken in order to provide me with the findings for this inquiry.

A review of the literature that was able to provide information about e-portfolios and their benefits to student learning, as well as recommend approaches to implement these, and the necessary factors to consider before doing so.

Visits to several primary schools in the Waikato and Bay of Plenty areas of New Zealand, and one in South Korea, that were recommended as successfully utilising e-portfolios, and that were enhancing student achievement, as well as their own assessment and reporting processes. At each school, leaders and teachers were asked a series of questions taken from literature that provided advice on implementation of e-portfolios. These questions centred on the school's readiness or need for e-portfolios, what methods of implementation were used, how that implementation was supported, and what reflections they have as their journey has unfolded.

Findings:

During this inquiry, three documents were particularly useful in providing information about e-portfolios, and a pathway to implement these as part of the learning and teaching process in a school setting: "Digital Portfolios, Guidelines for beginners" Ministry of Education, 2011; Nick Rate's presentation to the 2011ULearn conference entitled "10 Steps: A framework for developing e-portfolios in your school"; and Ian Fox's 2008 publication "e-portfolios-A personal space for learning." These documents I used frequently in a review of literature during my inquiry, and as a basis to quantify what I heard and observed in the schools I visited.

There were many other online articles that were easily sourced and relevant, particularly through the Educational Leadership and TKI portals. The sabbatical

reports posted by Principal colleagues on similar and related topics were a useful source of information and insight.

The New Zealand Curriculum document states in its vision for learning: *"Young people who will be confident, connected, actively involved, lifelong learners."* P7. In the schools visited, the use of e-portfolios incorporated all the components of this statement. The most obvious aspect of this statement was, as users of e-portfolios, the students were actively involved in their learning process, as well as in their community and world. In their personal e-portfolios, students used real life contexts in their learning, were able to set goals for themselves, and were able to reflect on what they had learned through a variety of electronic media such as video and audio. By placing this in an online environment, the student was able to receive feedback about their learning from a variety of sources-teachers, parents, peers and potentially from a worldwide audience.

"Learning is a partnership between the learner, the teacher, and the family, and as such each member of the partnership has a key role to play in ensuring the learner's success. The learner must be actively involved in this process." Fox, 2008.

Because students can become actively involved in their own learning processes through the use of e-portfolios, the likelihood of becoming *confident, connected, lifelong learners* is enhanced. Confidence comes from knowing your direction as a learner, and the ability to set goals for yourself, be reflective and find new goals. The e-portfolio allows users to become connected to others both locally and globally. A purpose of an effective e-portfolio is to be open ended, process oriented and not an end product of itself.

To illustrate this point, Ian Fox (2008) states, *"In most traditional portfolios evidence of the end product is recorded, when we know that it is through the learning journey, the process itself, where most of the learning occurs. The e-portfolio better allows students to demonstrate that learning journey."*

Schools that I visited were ensuring students' involvement in the learning process through their e-portfolios. Because these were housed in an online environment, they were potentially a facility that allowed for lifelong learning to occur. The students are able to post artefacts, set and reflect on goals, and receive feedback on an on-going basis for as long as they choose. Contrast this with the traditional paper portfolio that is often solely a "showcase" document that has an endpoint at the conclusion of each year.

There is a readiness that must exist in a school community before e-portfolios can be successfully implemented, and be effective as a learning tool for students.

Rate, 2011, presents a ten step interconnected framework to help schools develop e-portfolios, in which he advocates understanding the pedagogy as a first step in researching e-portfolios. Given that the e-portfolio is owned by the student, and it is they that have control of it, teachers must have a grasp of student centred learning, and how to best facilitate this, in order to make the most of this learning approach.

"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." Ministry of Education, 2011.

In addition, Fox, 2008 states, *"….an e-portfolio can assist students understand that learning is something they do, it is not something that teachers do to them. They become empowered to take a greater degree of control over their own learning and move further along the path towards being truly confident, connected, actively involved, lifelong learners."*

Good formative teaching practice that helps students to know their purpose and criteria for learning, that provides both feedback and feedforward, and provides opportunity for reflection, demonstrates a readiness for an e-learning approach.

A second step is for schools to define their purpose for e-portfolios, and align this with their school's vision and beliefs around learning.

"One real concern with e-portfolios is the danger that the technology can become the end point rather than it being the tool to support learning." Fox, 2008.

Rate, 2011 maintains there are 3 types of portfolio, each of which has a different purpose. The *"process"* e-portfolio supports students towards achieving their learning goals; a *"showcase"* e-portfolio celebrates learning outcomes and shows the highest level of achievement; and the *"accountability"* e-portfolio documents learning for achievement of specific outcomes or standards. In the initial years of schooling, the expected primary purpose of the e-portfolio is as a "showcase", moving into a dual purpose that includes "process" in the upper primary school levels, and finally using all three purposes, including "accountability" at secondary school level.

In the schools that I visited, each was using e-portfolios with students as a "showcase" of their learning, but were seeing the "process" purpose as equally, if not more important. This was being introduced at quite early stages of schooling, which necessitated a very simple approach. For example, students in Years 1 and 2 were able to share and reflect on an aspect of their learning, through an e-portfolio.

These schools also had a clearly defined vision for learning that saw the students actively involved in their own learning. This indicated that e-portfolios had been introduced as part of a considered strategy, rather than through other external factors such as "a good idea" or competition with other schools. Each of the schools visited confirmed that their introduction to e-portfolios arose as part of a need to involve students more in their learning, as well as improve their assessment and reporting processes.

A third step when considering e-portfolios, is to seek input from stakeholders such as students, teachers, school leadership, Board of Trustees and parents. In reality, the schools I visited launched into e-portfolios after discussions with the staff, and school leadership only. Often the approach was piloted by some key leaders who then provided information and expertise to others. Boards of Trustees and parents were informed of the direction and progress of the e-portfolios, and how their role at home

would assist their children's learning. Ongoing parent education is seen as an important part of the schools' role to provide ways that parents can interact with, and encourage their children to be effective and reflective e-portfolio users. However, two schools that have been utilizing e-portfolios with their students for some years have quoted anecdotal evidence that the interaction of parents with their child's e-portfolio is low. As the other schools visited were in the early stages of e-portfolio implementation, they were not able to comment on this. Regardless of the outcomes of parent interaction with their child's e-portfolio, all schools were of the belief that ongoing parent information and education was imperative.

Setting a framework for the e-portfolio is a possible next step in the development process. This is to decide how the structure of the e-portfolio will look, while ensuring it aligns with the school's vision and beliefs about learning, and reflects the pedagogy of the school.

One school had implemented e-portfolios with students, and found that over time, through additions and expectations, these had become teacher driven and unmanageable, and had moved away from the intended purpose. Through review, the school was able to identify changes that would ensure the e-portfolios would be sustainable, relevant, manageable, accessible and engaging. Another school had had many changes and tweaks to the framework of their e-portfolios as a result of their robust review processes. In essence, all schools visited were using a simple framework that incorporated their pedagogical beliefs.

A suggested fifth step towards e-portfolio development in your school is to settle on the criteria for choosing an e-portfolio tool. Some relevant criteria selected from "Digital Portfolios-Guidelines for beginners," MOE, 2011 are:

- *sustainability-one way of achieving this is having a service built on open source software,*
- *simplicity and flexibility-be easy to use for staff, students of all ages and parents,*
- *able to support Web 2.0 tools,*
- *web based with hosting options available.*

To illustrate this last point, the New Zealand Ministry of Education's publication "e-Portfolios-Celebrating Learning" states:

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

Other suggested requirements are usability, portability, user owned, lifelong availability and support, technologically scalable, and technologically advanced.

All schools visited were unanimous about the basic criteria they aimed to achieve for their students' e-portfolios. They were to be owned by and relevant to the students,

accessible any time anywhere, easy for both teachers and students to use, and were to illustrate student learning and subsequent reflection.

Step 6 of Rate's framework is to initiate a process for choosing an e-portfolio tool. There are many possibilities available to schools, and each has strengths and weaknesses that will suit a school's context.

"The first question to ask is not about what tool to use, but rather: 'What is your purpose for having your students develop an e-portfolio?' A clear description of the purpose should then drive the selection of appropriate tools. [Yes, plural... integrate multiple tools into the process.] 'Do you want a student-centered ePortfolio that is the student's story of their own learning, or do you want a system to collect data about student achievement for an external audience (accreditation, accountability)?' These are the extreme ends along a continuum, but also the major debate in the field today. In my opinion, if you say you want to do both, then pick two different tools, because when these two functions are combined within the same system, data collection/management tends to depress creativity and personal expression in student portfolios."
(Barrett 2009)

All of the schools visited, except one, had an existing facility available when e-portfolios were introduced. For a number of these, their current Learning Management System (LMS) was utilized. In one school, a change away from their LMS to another facility has occurred so as to better meet the purpose of the e-portfolios. One school uses their LMS for their young students, and the New Zealand developed MyPortfolio for the senior primary school classes, while another utilizes the feature within their hosted school website. Google Docs is used by a school for their students' e-portfolios because this is free to use. Each school agrees that their e-portfolio facility has some drawbacks but is currently the best in their particular context.

Educating of the stakeholders is the seventh step on the suggested framework for e-portfolio development. Rate, 2011 asks, *"What support will you give teachers, students and parents in reflecting, self assessing, providing quality feedback, setting goals…"*

As mentioned previously, the teachers must have an understanding of the pedagogy in order to ensure the success of e-portfolios. Deliberate skill building with students needs to occur regularly in the areas of goal setting, reflection, self and peer assessment and digital literacy. The challenge will be to educate parents, so that an understanding of the pedagogy that underpins e-learning is provided and regularly revisited, as the role parents have in the learning partnership is a vital one.

Schools that have been implementing e-portfolios with students indicated that they have largely provided professional learning for teachers "in house", led by teachers with skill and passion in this area. In some schools, a recognised "expert" was brought in to introduce the concept to teachers and leaders, and create interest and momentum in e-learning. Parent education has occurred in different forms, which has often proved difficult to engage all these stakeholders in understanding the

purpose of this learning approach and their role in it. This, they admit, is an ongoing challenge for them.

Step eight is going ahead with the implementation phase. It is vitally important that e-portfolios are integrated seamlessly into the teaching and learning, and are not an "add on" which is likely to incur resistance from teachers, and reduce their effectiveness as a learning tool.

"…e-portfolios had the greatest impact on learning when they were fully integrated into the day to day learning programme, rather than when they were used as a discreet entity." Fox, 2008.

All of the schools visited were integrating their e-portfolios with the day to day learning and teaching. However one school was continuing with their traditional paper based portfolio alongside the e-portfolio. This has created an extra workload pressure for teachers, and is, according to some teachers, potentially putting the continuity of e-portfolios in the school at risk.

In the Ministry of Education publication "Digital Portfolios-Guidelines for Beginners", 2011, several case studies are included from selected New Zealand schools that are on the e-portfolio journey. Each was asked what recommendations they have for others when implementing e-portfolios, based on their prior experience. The following were some of their reflections:

- *Be very clear of your purpose and make sure it supports your school's pedagogy*
- *Find another school with a similar purpose and learn from them*
- *Give more support to the teachers eg skill building, visiting other schools, development of pedagogy*
- *Make sure there is a clear action plan in place with timeframes and accountabilities documented*
- *Celebrate progress and achievements*
- *Ensure the infrastructure will support the level of intended roll-out*
- *Engage the Board of Trustees early on*
- *Trial with a small group of staff and students initially*
- *Engage the students with what the purpose is*

The schools visited had used all these recommendations to various degrees. Some had placed more emphasis on different points, but they were very aware of where their needs lay for the future, suggesting that review processes were in place. One school implemented e-portfolios schoolwide right form the outset, but on reflection felt they should have ensured the teachers had a greater familiarity with the tool. Other schools' implementation process has been to use a small group of students and teachers in a pilot, and then introduce to other staff and students. Interestingly, none of these schools introduced e-portfolios to the teachers as a personal professional journal first; as suggested by some commentators. It was done first with the student learning in mind.

A school's infrastructure and access to ICT tools must be considered prior to implementation of e-portfolios. Without these components able to provide adequate support, teachers and students will experience considerable frustration, and learning effectiveness will be reduced.

Step nine in the process suggests there is some updating schools need to undertake as they consider e-portfolios. Policy review around the school's pedagogy and direction for learning is often a good place to start.

"The introduction of an e-portfolio approach to teaching and learning is the opportunity to totally change students' attitudes (and teachers) to learning. The policies of last century style teaching must be reviewed and renewed. All research indicates the most effective implementation is when students are 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." Ministry of Education, 2011.

A number of schools visited had done some updating in terms of policy and digital literacy with staff and students. All are very aware that students must be safe when using the internet, and so have reviewed and updated where necessary.

The updating of digital literacy for teachers and students, internet safety policies and user agreements, as well as assessment and reporting policies and procedures are all important considerations for schools.

The tenth and final step in the framework for developing e-portfolios in a school is to ensure there is a planned review process throughout. All the schools visited had processes in place for review of their e-portfolio journey. These varied from quite informal processes because they were in the very early stages of implementation, to those schools that had quite formal and documented plans for review. It seems that as schools moved further along with their e-portfolio journey, they were more likely to have both formal and informal review processes. A possible strategy to ensure commitment to review is to build this into an action plan for e-portfolio implementation so that this informs future decision making and progress.

Conclusions:

"The power of 'student voice' should not be underestimated. To hear students reflecting on their own work, in their own voice, with their own intonations and expressions, conveys meaning in a manner that is simply not possible in written form." Fox, 2008.

The above quote is so much of what e-portfolios are about. The student needs to own the e-portfolio, through it be able to include real life contexts, share and set goals for learning, and be able to reflect on that learning with a view to their future learning. The teacher and parents have a vital role in working alongside the student giving both feedback and feedforward.

There is no question that using e-portfolios effectively with students contributes significantly to meeting the intent of the New Zealand Curriculum as evidenced by the following statement:

Learning in the 21st century can be enhanced by the use of technological tools, but it is the learning process that these tools must be focussed on.

However, there are considerations that schools must be aware of when implementing an e-learning approach. A well planned, systematic and documented approach by schools is vital to effectively implement e-portfolios as a tool to enhance the learning for their students. As one school quipped, "Just do it, but make haste slowly."

References:

Banks, B. (2004) *e-Portfolios: Their Use and Benefits.* Retrieved on 3 April 2012 from http://archive.excellencegateway.org.uk/media/ferl_and_aclearn/ferl/resources/organisations/fd%20learning/e-portfoliopaper.pdf

Barrett, H. (2009) *ePortfolio 2.0 – Second Generation Toolsets.* Retrieved on 25 May 2012 from http://www.epforum.eu/lfl2009

Fox, I. (2008) *e-Portfolios-A Personal Space for Learning.* Retrieved on 3 April 2012 from http://www.foxedu.co.nz/2008/02/eportfolios-a-personal-space-for-learning/

Ministry of Education. (2011) *Digital Portfolios Guidelines for Beginners,* Wellington.

Ministry of Education. (2009) *ePortfolios-Celebrating Learning.* Retrieved on 17 May 2012 from http://www.foxedu.co.nz/wp-content/uploads/2009/10/Ian_Fox-ePortfolios_Celebrating_Learning-July09.pdf

Ministry of Education. (2007) The New Zealand Curriculum, Wellington: Learning Media.

Rate, N. (2011) *10 Steps-A Framework for Developing e-portfolios in your School.* A presentation to ULearn conference. Retrieved on 15 May 2012 from http://www.slideshare.net/nickrate?utm_source=feedblitz&utm_medium=FeedBlitzEmail&utm_content=588744&utm_campaign=Web