

Assessment for Learning & ePortfolios

What are the formative benefits of ePortfolios?

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Acknowledgements	4
Abstract	5
Introduction	6
Why formative assessment and ePortfolios?	6
The Curriculum, Formative Assessment and ePortfolios	8
Setting the Scene - the New Zealand Curriculum	8
Assessment for Learning - a Formative Approach to Teaching, Learning and Assessment	10
Assessment for Learning - What does it really mean for teaching and learning?	13
ePortfolios - From showcase to process	18
Implementation of ePortfolios	23
Summary	26
Research Methodology	27
Research Question	27
Methodology	27
Participants	27
Data Collection	28
Data Analysis	28
Formative ePortfolios: The Teacher's Perspective	30
Knowledge of formative assessment	30
Selecting appropriate ePortfolio solution	35
Making the most of the benefits and features of ePortfolios	42
Developing formative practices through ePortfolios	52
Formative ePortfolios: The Student's Perspective	57
Knowing what they are learning and how they can achieve success	57
Knowing the next steps in their learning and taking action	60
Reflecting on their learning	64

What, So What & Now What?	67
What?	67
So What?	68
Now What?	72
References	74

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Abstract

The New Zealand Curriculum suggests that effective pedagogy, the teachers' actions that promote learning, are a key ingredient in preparing our students to become creative, active, connected and lifelong learners in the 21st Century.

One such action or approach to learning is formative assessment. Research has shown that formative practices raise standards and improve achievement. It actively involves students in their learning through a shared understanding of the learning goals and criteria for success, self and peer assessment, goal setting, and feedback that lets students know how they can improve.

The curriculum supports this by describing effective assessment as benefiting and involving students and supporting teaching and learning goals. The curriculum also suggests that elearning supports effective teaching and learning. It does this through connecting learners, creating learning environments and shared learning.

One practical way to integrate all aspects of effective pedagogy, effective assessment and elearning is through the use of digital portfolios. The traditional portfolio, used by artists to demonstrate their best work, has undertaken a huge transformation. By utilising anywhere anytime web based technology the emphasis has been taken away from the product of learning, to how the portfolio supports the process of learning.

This research study investigates the formative benefits of eportfolios using two case studies of primary school classes as they implement an online eportfolio solution. Observations and interviews with students and teachers and the eportfolios are used to compare the outcomes with the underlying characteristics of formative assessment thus answering the question, What are the formative benefits of eportfolios?

Introduction

My first teaching job was at Russell Street School in Palmerston North in 1997 where I taught a class of year 3 and 4 students. During this time I was finishing my Bachelor of Education and completed two papers in educational technology, Computers in Education and Innovations. These two papers introduced me to ICT for learning and immediately allowed me to see the huge potential in this area.

I clearly remember one of my course texts, *Learning With Technology: A Constructivist Perspective* (Jonassen, Peck & Wilson, 1999). They discussed concepts of learning with technology and making it active, constructive, reflective, intentional, authentic, conversational and interactive. These still form the basis of my beliefs about learning with technology and remain constant no matter how quickly the technology around us changes.

As my teaching career progressed and I was introduced to additional models of learning, such as the Assess to Learn programme or Gwen Gawith's Action Research model, the potential to blend these approaches together with ICT's became increasingly evident in order to facilitate an effective learning environment.

I have now taught at every level of the primary school from new entrants through to the year 6's, as well as teaching internationally in Japan as a classroom and specialist ICT teacher. This has given me an excellent overview of learning at every level in the primary school as well as broadened my perspective of teaching using both the New Zealand and the inquiry based International Baccalaureate Primary Years Programme curricula.

Before heading overseas, I facilitated the Russell Street ICTPD cluster coordinating the professional development for thirteen schools in the Manawatu. This opportunity allowed me to share my beliefs on elearning and facilitate the effective use of ICT's to support learning and teaching.

Why formative assessment and ePortfolios?

Japan introduced me to the availability of cheap and fast broadband, which to this day is still not matched in New Zealand. Having access to this service made me realise how this could be utilised in a range of ways to support learning. The Web 2.0 revolution was in its infancy and making websites relied upon mastering programs such as Dreamweaver or GoLive.

Portfolios were already established in the school and were actively being used to demonstrate learning throughout the elementary classes. Compiled in clear file folders, they went home four times a year and were also used as the basis for discussion during student led conferences.

With excellent access to technology, my students were producing more digital evidence of learning than paper. It was becoming increasingly difficult to authentically demonstrate learning using the current portfolio medium.

I was permitted to trial digital online portfolios with my class of grade 5 students. While proving to be successful and well received by parents and students, the technical aspects of administering the portfolios with Dreamweaver and updating with Contribute, made this an unsustainable option.

iWeb had not yet been released at this stage, but by the time I returned to New Zealand, iWeb had proven itself as an easy drag and drop solution for authoring websites. iWeb became our technology of choice for eportfolios and it proved to be a manageable way to demonstrate learning and the processes involved. Students took to it with ease and the benefits of digital over paper portfolios became evident to parents and other teachers.

However, there was still a vital element missing and this was reinforced when the school became involved in the Assess to Learn professional development programme. This reinforced the importance of feedback, commenting and self-reflection from not only the students, but teachers and parents as well. While these features were present in the classrooms, the portfolios were not integral to the process. Harnessing the power of Web 2.0 tools would enable this to happen.

Aligning the feedback-reflection-improvement cycle to the eportfolio became my next interest and challenge and the basis for this research.

The Curriculum, Formative Assessment and ePortfolios

Setting the Scene - the New Zealand Curriculum

The New Zealand Curriculum (2007) states what is deemed important for education in New Zealand. The document is based on the vision of lifelong learning, creativity, confidence, active involvement and connecting our young people.

It defines the guiding principles for curriculum design, the values to be encouraged and modeled for our students, and the key competencies for sustaining learning and effective participation in society. The learning areas are structured towards learning so that teaching objectives are relevant and have well defined outcomes for students.

“...a framework designed to ensure that all young New Zealanders are equipped with the knowledge, competencies, and values they will need to be successful citizens in the twenty-first century.” (Ministry of Education. p. 4)

Effective pedagogy is at the heart of what will make this curriculum work. It is the basis of all decisions and actions that promote student learning. We require teachers who understand and facilitate learning with consistently positive outcomes.

Based on research, the New Zealand Curriculum describes that students learn best when teachers:

- create a supportive learning environment;
- encourage reflective thought and action;
- enhance the relevance of new learning;
- facilitate shared learning;
- make connections to prior learning and experience;
- provide sufficient opportunities to learn;
- inquire into the teaching–learning relationship.

The document further describes effective pedagogy and its relationship with elearning. eLearning has considerable potential to support teaching approaches that have a positive impact on student learning. It can enable connections, shared learning, supportive learning environments, and enhance opportunities to learn.

“Schools should explore not only how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning.” (Ministry of Education. p. 36)

Assessment is one of the key considerations for schools when designing how the curriculum will be implemented. Schools need to make decisions about gathering, analysing and using assessment information to improve student learning.

The New Zealand Curriculum describes the characteristics of effective assessment. It;

- *benefits students* - by clarifying what they can do and what they need to learn

- *involves students* - by discussing, clarifying, reflecting with teachers, parents and peers, and through self and peer assessments
- *supports teaching and learning goals* - by understanding desired outcomes and criteria for success
- *is planned and communicated* - outcomes, assessment criteria are known, and programmes are flexible and adaptable
- *is suited to the purpose* - evidenced based and appropriate to the nature of the students
- *is valid and fair* - professional judgement used when interpreting and making decisions

“The primary purpose of assessment is to improve students’ learning...” (Ministry of Education. p. 39)

While the New Zealand Curriculum promotes effective pedagogy, supported by elearning, and effective assessment, it leaves the door open for schools to further define and develop these areas and how they will be implemented.

“It gives schools the scope, flexibility, and authority they need to design and shape their curriculum so that teaching and learning is meaningful and beneficial to their particular communities of students.” (Ministry of Education. p. 37)

There are plenty of questions to be answered of how best to make this happen and facilitate effective learning. Extensive consultation and discussion will synthesise what schools and their communities believe is important for their students. If they were to begin by pulling apart how effective teaching and effective assessment are described in the document, there are a number of common themes and concepts that can easily be noted between the two. These are then able to provide the catalyst for developing learning programmes which will enhance and develop these areas so that they are effective, manageable and sustainable.

The common themes include, but are not restricted to; reflection, active involvement, motivation, relevance, evidence based, supportive, engaged, opportunities, relationships, communication and sharing.

Assessment for Learning - a Formative Approach to Teaching, Learning and Assessment

Research would suggest that a formative approach to teaching, learning and assessment would provide the necessary structure and platform for effective teaching and assessment, based on sound pedagogical principals.

To support this claim, one need look no further than the New Zealand Curriculum Update on assessment published by the Ministry of Education in 2001. As Clarke (2003) discusses, the direction for the national assessment strategy is strongly influenced by formative approaches to teaching and highlights using assessment to improve learning.

Formative assessment can be defined in a number of ways. Most simply it can mean no more than assessments that are carried out frequently and are planned at the same time as teaching, but Black and Wiliam (1998) go further and provide a more detailed definition:

...refers to all those activities undertaken by teachers, and by the students in assessing themselves, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged. Such assessments become formative when the evidence is actually used to adapt the teaching to meet the needs.
(Black & Wiliam. p. 2)

As Black and Wiliam suggest, the definition of formative assessment is crucial to how effective it is. Formative assessment is also often referred to as assessment for learning. One can argue however that formative assessment and assessment for learning have a distinct difference and purpose in the classroom. Stiggins and Chappuis (2008), discuss how formative assessment provides insights for the teacher but assessment for learning provides them for the student.

Formative assessments tend to focus on academic achievement standards, providing results that reveal which standards students are or are not mastering. By identifying this information, formative assessments help teachers refine instructional programs in ways that enhance student success.

However, assessment for learning doesn't ask who is and isn't meeting standards. Rather, it asks how each student is doing on her or his journey up the scaffolding leading to each standard. It provides this information to students in terms that they can understand, in order to support their decision making through levels of proficiency leading to success.

It is important to differentiate between the two particularly in the context of this research. Assessment for learning, as defined and differentiated by Stiggins and Chappuis, and defined by Black and Wiliam, far more accurately describes the approach to teaching and learning that is discussed in this research, guided the teacher's actions and portrayed in the students' ePortfolios.

Assessment for learning is not just a strategy or an approach to assessment, it is a process that helps students learn. In some ways it is inaccurate to include the word assessment in the title as this carries with it many negative connotations and implications. Assessment for

learning, as discussed by Clarke (2003), is a process to develop more effective teaching and learning practice.

Black and Wiliam (1998) in their publication *Inside the Black Box: Raising standards through classroom assessment*, further discuss assessment for learning and how it is at the heart of effective teaching. In their extensive review referencing over 250 published research articles on the subject, they have concluded that assessment for learning is one of the most powerful ways of improving student learning. This applies not only to primary aged students but those from five years of age to university graduates and transcends across school, subjects and countries.

This research was followed up by a publication from the Assessment Reform Group, titled *Assessment for Learning: Beyond the black box* (1999, p.7). This identified the key characteristics of assessment for learning and what it looks like in practice. These are that:

- *it is embedded in a view of teaching and learning of which it is an essential part;*
- *it involves sharing learning goals with pupils;*
- *it aims to help pupils to know and to recognise the standards they are aiming for;*
- *it involves pupils in self-assessment;*
- *it provides feedback which leads to pupils recognising their next steps and how to take them;*
- *it is underpinned by confidence that every student can improve;*
- *it involves both teacher and pupils reviewing and reflecting on assessment data.*

These key characteristics are echoed by others. Davies (2000) describes assessment for learning as ongoing and requiring deep involvement on the part of the learner and describes five key factors to make this happen. Included are that:

- learners are involved,
- learners self-assess and receive specific descriptive feedback about learning during learning,
- learners collect, organise and communicate learning with others,
- teaching is adjusted in response to ongoing assessments
- a safe learning environment for risk taking and focused goal setting supports learning.

Similarly Clarke, Hattie and Timperley (2003), in the context of teaching in primary and intermediate schools in New Zealand, list what formative assessment is usually considered to consist of:

- clarifying the learning intentions at the planning stage
- sharing learning intentions at the beginning of lessons
- involving students in self-assessments against the learning intentions
- focus oral and written feedback around the learning intentions
- organising individual target setting basing next achievement on previous achievement
- appropriate questioning
- raising self-esteem through the language of the class and celebrating achievement

This is perhaps the most beneficial summary of the characteristics of assessment for learning. It lists in plain English the expectations of what will be implemented and facilitated in the classroom to engage teachers and students in effective teaching and learning.

One can see very easily that the described characteristics of assessment for learning, whether from Black and Wiliam, Davies, or Clarke et al., all stem from that same train of thought. That is, that assessment for learning is a process integrated throughout teaching and learning, involving and informing students through effective feedback and shared criteria the outcome of which contributes to higher achievement and self-esteem.

Assessment for Learning - What does it really mean for teaching and learning?

If we take Clarke's et al. characteristics of assessment for learning and break them down, we can clearly see the implications for teachers in using effective pedagogy and assessment to facilitate learning. How do teachers and students use their assessment information to improve learning and teaching?

Clarifying Learning Intentions in Planning

"Good planning is essential to being clear." (Absolum, p. 76)

The process starts with planning. Teachers have a responsibility to inform students of what they are learning. This is described through learning intentions, what it is they want the students to learn. This can include skills, knowledge, competencies, values or a combination of all. The teacher needs to be very clear about the learning intention:

"Unless teachers are clear about what they want students to learn, it is not possible to develop good assessments of that learning." (Clarke et al. p. 15)

Black and William reinforce the importance of planning. They argue that in order for effective teaching to work and have a positive influence, it is necessary to have *"a careful scrutiny of the main components of a teaching plan."* (p. 10). They state that instruction and formative assessment are *"indivisible."*

Furthermore, the Assessment Reform Group in their Assessment for Learning: 10 Principles leaflet, list their first guiding principle as, *"Assessment for learning should be part of effective planning of teaching and learning."* They describe how a teacher's planning should include opportunities to obtain and use information on progress towards the learning goals, be flexible to incorporate emerging ideas and skills, and describe how feedback and involvement of students in the learning process will be accommodated.

Sharing Learning Intentions

The second element of assessment for learning involves the sharing of the learning intention with students. Described as the first active component of assessment for learning, sharing learning intentions allows the students to make better decisions about how they are going to go about the learning.

"Shared agreement and understanding between teachers, students (and parents) about what is to be learnt and why, is critical because students, particularly underachievers, don't know what they are supposed to be working on." (Absolum, p. 93)

Learning intentions, which often start with, *"We are learning to..."* (WALT) are further broken down into success criteria. Success criteria can be best described as indicators that help students gain a better understanding of what the learning might look like. Often teachers may

use language such as, *"We will know we have been successful when..."* to help give students a clearer idea of what they are aiming to learn.

Success criteria are an extremely powerful learning tool and guide for the students, especially when they co-construct these with the teacher. This is normally done in conjunction with the use of exemplars or anonymous work samples, to assist students in determining what the intended result of the learning is. Students list the qualities that make them strong, learning the language of quality and the concepts behind strong performance (Stiggins & Chappuis). A teacher facilitated discussion will then produce the co-constructed criteria for success.

"Words are needed to describe criteria and examples are needed to demonstrate quality." (Sadler, 1987)

Te Kete Ipurangi, the New Zealand Ministry of Education's Online Learning Centre, provides exemplars across the learning areas. They are described as an authentic piece of student work which are annotated to show learning, achievement and quality.

Exemplars help answer the question, "What is quality work?" (Ministry of Education, 2008)

Involving Students in Self-Assessment

Success criteria describe not only what the learning should look like, but also provide the basis for engaging students in self-assessment and reflection. Clarke, Hattie and Timperley (2003), discuss how studies have shown that by involving students in self-assessment, significant progress can be made.

This has been echoed by the Assessment Reform Group (p. 7) .

...much of this information will come as feedback from the teacher, but some will be through their direct involvement in assessing their own work. The awareness of learning and ability of learners to direct it for themselves is of increasing importance in the context of encouraging lifelong learning.

Additionally, the Assessment Reform Groups principles of assessment for learning, state that:

"Assessment for learning develops learners' capacity for self-assessment so that they can become reflective and self-managing."

If learners are constantly asking themselves as Absolum (2006) writes, *"What does this information tell me about how well I've learnt and what I need to do to close the gap?"* the outcomes of self-assessments can be far reaching and not just academic. Clarke et al. (2003) describe, increased self-esteem, enjoyment in finding others with the same problems or successes, and liberation as the students share difficulties they are experiencing as some of the positive outcomes of self assessment especially when undertaken as part of a whole-class sharing session.

"What this amounts to is that self-assessment by pupils, far from being a luxury, is in fact an essential component of formative assessment." (Black & Wiliam, p. 10)

Focusing Feedback on the Learning Intentions

As students develop their critical self-assessing ability, they can transfer these skills to giving feedback to peers on their learning. Feedback from both students and teachers, is one of the most powerful influences on student achievement. Good feedback depends on the quality and clarity of the learning intention, success criteria and exemplars of learning. Without them, Absolum (2006) states that it will be very difficult to give feedback that will support learning.

In order for feedback to be effective, it needs to cause thinking. According to Leahy, Lyon, Thompson and Wiliam (2005), what causes thinking is a comment that addresses what the student needs to do to improve. Absolum (2006) adds to this by stating that effective, learning based feedback focuses on the learning intentions and the success criteria and confirms what has been learnt and supports the next step in learning.

Black and Wiliam (1998) also point out the benefits of replacing judgmental feedback with specific, descriptive and immediate feedback. Clarke et al. (2003) categorise feedback into three closing the gap prompts.

A reminder prompt reminds the student of what can be improved and is a simple reiteration of the learning intention or success criteria, *"Don't forget to look at the first letter."* A scaffold prompt is suitable for those students who need more direction than just a reminder, such as a question, directive or open ended sentence. *"Can you describe how this car is so good for the environment?"* The final prompt is an example prompt used to give the students examples of choices to clarify what they are learning, *"Perhaps you could say something like..."*

"Formative assessment does make a difference, and it is the quality, not just the quantity, of feedback that merits our closest attention." (Sadler, 1998)

Feedback can be oral, written or even an audio or video response. Often feedback will be part of a learning conversation (Absolum, 2006) or conference where learning is discussed together in a one on one situation between teachers and students, or students and students. This gives both parties the opportunity to explore ideas and concepts. Other strategies, such as using different coloured highlighters to identify best practice and areas for improving, are easy to complete and highly beneficial (Clarke 1998).

"The dialogue between pupils and teacher should be thoughtful, reflective, focused to evoke and explore understanding, and conducted so that all pupils have an opportunity to think and to express their ideas." (Black & Wiliam, p. 12)

Individual Targeted Goal Setting

Absolum (2006) states that feedback *"...points to their next steps in learning."* While this can be teacher directed, perhaps to meet national standards, the real power of feedback and

reflection comes from the student *"...taking ownership and taking responsibility for their own learning, become lifelong learners..."* (Stiggins & Chappaus, 2008). They continue further by discussing the role of goal setting to practice identifying their own strengths and areas for improvement.

Absolum (2006) uses the phrase active reflection to describe the goal-focused evidence based thinking that is ongoing. Simple reflection strategies such as the What? So What? Now What? process involve students in reflecting upon what they have done, what they have learnt and what they are going to focus on. This goal setting allows students to close the gap between what they are learning to do and where they are actually at based on feedback and reference to examples of learning.

Learning and Teaching Scotland (2007) identifies the characteristics of an Assessment is for Learning school. In their triangulated diagram, What is an AifL School? they incorporate goal setting as part of assessment, curriculum, learning and teaching. *"Our pupils and staff help to set their own learning goals."* This will assist in working towards their vision of school being "a place where everyone is working together."

Appropriate Questioning

Questioning is a widely used teaching strategy to engage students in thinking more deeply about a topic. Unfortunately teachers habitually use poor questioning techniques to engage students in higher order open ended questions and responses. Research from Clarke et al. (2003) and Black, Harrison, Lee, Marshall & Wiliam (2004), indicates that teachers wait less than one second for answers and if none are forthcoming they answer it themselves. Having such a short wait time for answers only allows closed questions to be asked with simple comprehension or factual answers all that is necessary as a response.

The key to using questioning to promote learning and reflection is allowing a longer wait time. This will allow students to become more involved in discussions and increase the length of their replies. Of equal importance is ensuring that questions are linked to the learning intention. Clarke et al. (2003) suggest this is the most important aspect to support reflection about learning and the learning process. Black et al. (2004) agree that the point of asking questions is to raise issues about which the teacher needs to know about or about which the students need to think. They describe the benefits of this as being greater student involvement and activity.

"The teachers also shift in their role, from presenters of content to leaders of an exploration and development of ideas in which all students are involved." (p. 13)

Raising Self-Esteem and Celebrating Achievement

Professor Dylan Wiliam (2006) advises that *"The teacher's questioning of the student can cause possibly irreparable damage to the student's sense of self if undertaken in a humiliating way."*

A student's self-esteem is one of the most documented keys to the success as a learner (Clarke et al.). One of the positive outcomes of assessment for learning, as discussed by Black and Wiliam (1998), is that this process of learning puts the emphasis and ownership of learning on the students. This results in any fear of failure or competitive comparison irrelevant as it is about taking each student from where they are with their learning to where they need to go.

Assessments need to take into account the importance of learner motivation which is directly related to self-esteem. If a classroom and school culture is based on comparing students, or only offering gold stars or a similar reward system, they are unlikely to motivate students or create a learning culture. Motivation is the energy and drive to learn (Martin) and without it, students are likely to withdraw and feel they are no good (Assessment Reform Group).

A school culture where students believe that effort leads to success, when they accept that they have the ability to learn and prefer challenging tasks (Dweck, 1986), will promote positive attitudes in students. The Assessment Reform Group (2002) add that motivation can be preserved and enhanced by assessment methods that protect learner's independence, provide choice, constructive feedback and opportunities for self-direction.

The final word is best left with the advice from Black and Wiliam (1998).

"What is needed is a culture of success, backed by a belief that all pupils can achieve."

ePortfolios - From showcase to process

This research project takes the concept of an eportfolio and aims to make it a workable, sustainable and effective option for promoting and supporting learning. ePortfolios are a hot topic in educational circles. In 2007 Derek Wenmoth, of Core Education, noted that ePortfolios were one of the years 10 trends to watch for regarding the use of ICT in education. He states that:

“Students using Web 2.0 applications to store and manage personal files will present a challenge to both the conceptual thinking about portfolios and the technical architecture of the systems.”

The Purpose of ePortfolios

By defining what an ePortfolios is we may best describe its purpose. Dr Helen Barrett (2006) defines a portfolios as:

“... a collection of work that a learner has collected, selected, organized, reflected upon, and presented to show understanding and growth over time.” (p. 1)

She further defines this in a second publication, White Paper: Researching Electronic Portfolios and Learner Engagement (2005):

In my definition, an electronic portfolio uses electronic technologies as the container, allowing students/teachers to collect and organize portfolio artifacts in many media types (audio, video, graphics, text); and using hypertext links to organize the material, connecting evidence to appropriate outcomes, goals or standards. (p. 5)

Cambridge (2003), additionally defines the ePortfolio as:

“what is produced when persons collect, select, reflectively interpret, and/or present their own evidence to support their assertions about what they have learned, know and can or should do...” (p. 29)

The definition of an ePortfolio can be directly dependent on its purpose and goal. Aalderink (2007), describe three main types or functions of eportfolios, the showcase or presentation, the assessment, and the process or development function.

The presentation portfolio is often used to put forward the best examples or evidence of learning. The owner decides what is published and can suit the content to fit a particular purpose such as to potential employers.

The assessment portfolio is used for accountability and thus are assessments of learning rather than assessments for learning, as distinguished by Barrett (2005). Portfolios used in this way are not student centered and generally not preferred by both students and teachers.

The process or development portfolio's purpose is to capture the learning process. It provides appropriate ways to support learners in reflecting on the learning and allows them to make connections between learning.

This function is reinforced by Attwell (2007) who simply defines ePortfolios and their purpose:

"...to define e-Portfolios as a process, rather than just a product or a technological system."

Aalderink and Attwell both highlight one of the most important themes and purposes of this research project, that the eportfolio itself is not the most important aspect, it is the process of commenting, reflecting and improving on learning that happens as the ePortfolio is created that is the central goal. The formative nature of the eportfolios places the emphasis on effective pedagogy not technology.

While the formative nature of the eportfolios is the prime focus for this research, eportfolios have the potential to additionally contribute to learning and development in schools. Fox (2008), discusses his Learning to Learn portfolio model which clearly highlights three areas that portfolios can enhance. Firstly by developing students metacognitive abilities through goal setting, reflection and use of learning models. Secondly, he reinforces the portfolio as an assessment for learning tool not assessment of learning. The third area concerns how portfolios can strengthen the link between home and school. Here, the portfolio assists in helping parents engage in discussion about their child's learning.

Benefits of ePortfolios

Fox's Learning to Learn portfolio model introduces us to the benefits of ePortfolios, by supporting metacognition, assessment for learning as well as facilitating the link between home and school.

The pedagogical benefits are also discussed by MOSEP project. *"The notion of self-organised learning, self-regulated, self-directed is deeply embedded in the pedagogical eportfolio concept."* (p. 18). Additionally they discuss how eportfolios improve learning, support lifelong learning, record learner progress and recognise informal learning.

One can not have a greater benefit than that of developing effective learning through metacognition and supporting effective pedagogical practice, such as assessment for learning as discussed at length in this review. Furthermore, both Woodward & Nanholy (2004) and Barrett (2005) describe how eportfolios facilitate increased motivation and engagement in learning. By allowing students to publish learning, greater self-confidence is gained and supported by discussion and reflection.

The benefits discussed so far are not exclusive to the digital format. One could argue, as Woodward and Nanholy (2004) suggest in their article aptly named Digital portfolios: fact or fiction?, that digital portfolios are a passing fad. They ask whether or not they add to existing practices or if they are a fashion soon to be forgotten. This research project is based on the

belief that the switch from paper to digital portfolios is highly beneficial and brings with it many more advantages.

Riedinger (2006) discusses how the digital nature of eportfolios open wide the possibilities for reflection during learning, before learning and after learning not only individually, but in discussion with peers and teachers through written, spoken, video or graphical representation. This is reinforced by Harris et al. (2007) who write that online eportfolios provide students *"with much greater flexibility in gathering, documenting, updating and maintaining the evidence of their learning over time ... represent greater flexibility and may be updated by students anywhere, anytime."*

Accessibility is also discussed by MOSEP (2007), who argue that the ubiquitous nature of internet connectivity, through not only computers but mobile phones and other devices, allows huge benefits so that *"...students can literally carry their eportfolio around with them and update it at any time in any place."* (p. 36)

Both Attwell (2007) and MOSEP (2007) describe how eportfolios, with their ability to facilitate social networking, add another dimension to the capabilities of the eportfolio. They can, depending on the design of the application, provide the opportunity for students to use computers as they do in their social life; to share, create and network. Students, teachers, peers and parents can connect and collaboratively change and adapt thoughts and feedback to a learners developing needs and goals.

The multimedia nature of the eportfolio is a widely discussed benefit. The ability to create and share powerful multimedia learning has become considerably more accessible in schools. MOSEP (2007) describe how multimedia tools such as iPods, mobile phones and video cameras support the ability to capture rich records of learning and reflection when and where it takes place. Additionally this may be a much more suited method for many students to capture thoughts and learning if they are less confident using the written form.

Fox (2008, p. 8) emphasises the importance of capturing this learning:

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. Voice adds depth to the work, allowing the author's personality to come through. It enables the author to communicate more directly with those viewing the work who are then able to listen directly to the author's thoughts and reflections.

Multimedia in a eportfolio is not limited to student voice, it includes the capability to incorporate all the elements of sight, sound and motion. This is one of the most immediate advantages of the digital format; embedding videos, podcasts, virtual reality scenes, slideshows and presentations to suggest a few. This manifest of learning enables real and authentic learning to be shared and interacted with as it was designed. This can not be replicated in a paper version. Barrett (2005) agrees that multimedia is beneficial not just for its authenticity but because; *"The use of multimedia tools is one strategy that involves and engages learners."*

Harnessing the power, of what is commonly referred to as Web 2.0 or the read-write web, introduces us to another of the advantages of the digital online eportfolio, especially those created by blogging software such as WordPress or Google's Blogger. No longer do users and creators of web content need to know HTML or technology specific skills, they can focus on creating and sharing their thoughts and learning which can be tagged, categorised and published chronologically.

Web 2.0 additionally incorporates many other benefits. O'Reilly (2005) describes how blogging with the use of RSS technology, allows for a *"global brain"* of *"collective intelligence."* RSS allows someone to link not just to a page, but to subscribe to it, with notification every time that page has new entries or comments. The potential is there for parents, peers and teachers to subscribe to an eportfolio feed and thus to new learning and reflection from their child or student. It will be delivered to them rather than the learning collaborators having to go looking.

Web 2.0 is the technology that makes possible the ability for students, peers, teachers, parents, whanau, anyone with access, to view, comment, feedback and reflect from any Internet ready computer, anytime. Becta (2007, p. 5) in their Impact Study of e-Portfolios on Learning, describe how this feature supports learning:

"Tools that support the important learning process of feedback from teachers and peers, and collaboration within class groups and across institutions, are much appreciated by learners and teachers. These include tools for commenting..."

Tosh et al. (2006, p. 30) agree. They state that:

"In the right environment the social networking potential of the learning landscape and eportfolio-related tools are features that facilitate and enhance the making of connections and the linking together of people, ideas, resources and learning..."

Formative ePortfolios - The role of the teacher

Barrett (2005. p. 18) clearly identifies the attributes of portfolios that are assessments for learning as differentiated by assessment of learning. From this we can gain an excellent picture of what a formative eportfolio represents and how it should be constructed to support effective teaching and learning.

- Purpose of portfolio agreed upon with learner
- Artifacts selected by learner to tell the story of their learning
- Portfolio maintained on an ongoing basis throughout the class, term or program - time flexible
- Portfolio and artifacts reviewed with learner and used to provide feedback to improve learning
- Portfolio organization is determined by learner or negotiated with mentor/advisor/teacher
- Rarely used for high stakes decisions
- Formative - what are the learning needs in the future? (Present to future)
- Fosters Intrinsic motivation - engages the learner
- Audience: learner, family, friends - learner can choose

Rossi, Magnoler and Giannandrea (2007, p. 1) also describe the purpose and benefits of the formative portfolio:

A portfolio with a stronger formative orientation, instead, would allow the individual to reflect on the ongoing learning process, on the learning styles, on the competences he/she is acquiring so that it will improve the planning of his/her learning path.

If an eportfolio can embed the necessary range of learning artifacts, allow them to be added at anytime, allow students, teachers, friends and parents to provide effective feedback on these artifacts from anywhere, engage and motivate the learner through control of their learning and using technology, and celebrate learning, then the eportfolio will support the process of assessment for learning. It is essential that the technology used for the eportfolios can support the implementation of these characteristics.

However one must note that it is not the technology that will make effective learning happen. Whether the eportfolio supports formative assessment ultimately depends on how the teacher facilitates its use. As previously discussed, effective pedagogy depends on the teacher's actions that promote learning. Their role is crucial in making the eportfolio support learning.

Gathercoal, Love, Bryde and McKean (2002, p. 32) describe the teacher's actions in using their webfolios where a teacher *"no longer simply imparts information, but helps the student construct meaning through facilitation and coordination of the learning environment."*

MOSEP (2007, p. 52) also support that the role of the teacher must change when developing eportfolios. *"While such a role may merely embody the principles and practice of good teaching, it may also reflect a wider change in role from didactic presentation to a more facilitative style of teaching."*

This is certainly nothing new in regards to the change that teachers must make in order to facilitate the skills and understandings students need to participate in the 21st Century. Jenkins (1999) states that in this world of change, teachers need a new approach to their job and a new vision of what it means to teach and what it means to learn.

The new approach can be captured here by Attwell (1997) as he lists the role of the teacher in supporting eportfolio development:

- providing technical support and assistance;
- organising the contexts and communities of learning;
- formulating organisational objectives;
- facilitating the structuring of portfolio contents;
- facilitating reflection;
- guiding and monitoring the student's advancement through the integral cycle of investigative learning;
- helping in the evidencing of competences;
- supporting planning;
- interacting and conducting conversation with the students;
- planning and assessing the overall process.

Implementation of ePortfolios

Danielson and Abrutyn (1997) outline the process for the development of a portfolio. Their collect, select, reflect and project sequence has been well used as the basis for students and teachers to demonstrate learning, reflect on learning and facilitate future goal setting in portfolios.

However in the age of the eportfolio using extensive multimedia, shared global intelligence and the integration of a wide array of web 2.0 tools, the simplicity of collect, select, reflect and project does not truly divulge the extent to which the eportfolio process can go beyond that.

Although penned in 1994, Burke, Fogarty and Belgrade's *The Mindful School: The Portfolio Connection* describes a much more thorough process that easily encompasses the possibilities that a web based eportfolio can provide. They describe the process as:

- Project* purposes
- Collect* and organise artifacts
- Select* key artifacts
- Interject* personality
- Reflect* metacognitively
- Inspect* to self-assess
- Perfect* and evaluate
- Connect* and conference
- Interject/Eject* to update
- Respect* accomplishments

This process takes the important features of assessment for learning and utilises the possibilities and benefits of eportfolios. Reflecting, self-assessment, conferencing for feedback and the perfecting and updating of learning for improvement and to meet the learning intention are integral to this process and assessment for learning. The ability to add your personality to your eportfolio, to connect and conference globally and from anywhere at anytime, to go back and perfect and repost, to record student voice in reflections and self-assessments are some of the known advantages of the eportfolio which also align themselves with this process.

Burke's et al. (1994) process, rather than being sequential, is seemingly more cyclic in nature. Rather than going from *project* through to *respect* in an orderly fashion, it lends itself to revisiting aspects in order to make the eportfolio a truly student self-directed and organised process.

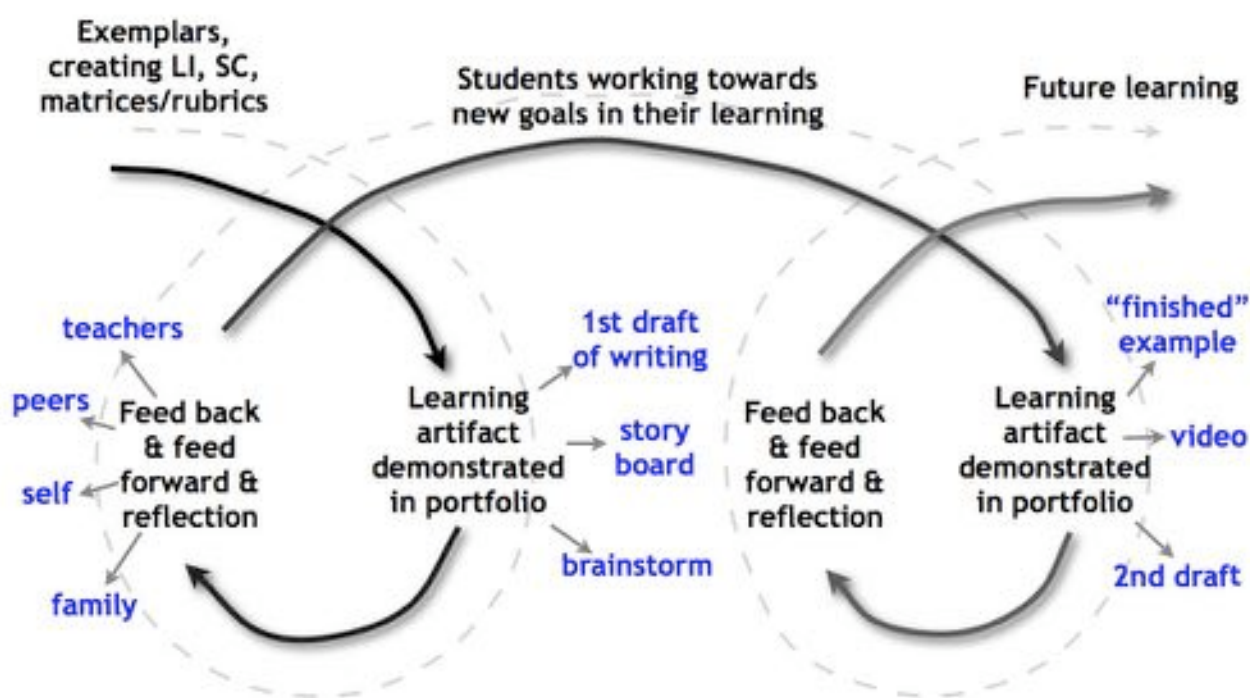
For example, a student may arrive at the reflection stage, where they are consciously thinking about their learning, the intentions of the learning and whether the artifact will fairly represent that. The student then, or when conferencing with the teacher, may realise that it does not and so they restart the cycle at selecting. The process puts much more emphasis on the students taking control of their learning.

This is an important point and reinforces the most important aspects of assessment for learning, as described by the Assessment Reform Group.

“Assessment for learning develops learners’ capacity for self-assessment so that they can become reflective and self-managing.”

In order to implement the best attributes from Burke’s et al. (1994) process and those of assessment for learning, the implementation of the eportfolio has been designed to follow a cyclic process as shown in the diagram below.

AFL & ePortfolio Cycle



This diagram reflects the true nature of assessment for learning, where students work towards improving their learning, with guidance from teachers and other students or independently, after self reflection and feedback.

The cycle begins with the teacher facilitating the process of using exemplars of quality learning so that the process of co-constructing the success criteria and assessment rubrics is informed and inclusive. From there, students, who now have a clear shared understanding of what they are learning and how they will achieve success, will begin a learning project, guided by the teacher as required.

If we take a written language project example, the students will produce a draft of their writing which is uploaded to or linked from their eportfolio. The draft piece of writing is now able to be accessed and commented on by the student, teacher, other students or family members, and depending on the level of security, a wider global audience.

The next phase of the cycle is where the student works on improving their learning based on their own self-assessment and the feedback provided focusing on the success criteria. As mentioned, this action can be completed independently or with the support and guidance of the teacher or other students. At the conclusion of this phase the student again uploads an artifact to their eportfolio entering another period of self-assessment and feedback.

This could conclude this cycle of learning or spiral into another. The number of cycles is not prescribed and is flexible to individual students needs and abilities and is also determined by the nature of the learning. For example, an extensive inquiry project or technology design venture may require many conferences and learning conversations, reflections and feedback. Students may also seek out more feedback or guidance at any stage in order to ascertain where they are at in terms of meeting the success criteria.

The cyclic implementation of assessment for learning through eportfolios as described and shown in the diagram is the aim of the project. The feedback and commenting within the eportfolio framework is not intended to replace face to face learning conversations but compliment them. It is also important to note that not all the listed people or groups are required to comment and provide feedback for each learning cycle.

The AFL and ePortfolio cycle reinforces the importance of defining the *“...e-Portfolios as a process, rather than just a product or a technological system.”* Attwell (2007).

Summary

The New Zealand curriculum describes the actions that teachers can make that promote student learning. Actively encouraging reflection, creating supportive learning environments, shared learning, and connecting to prior learning, will all have positive impacts on students learning.

These actions are also features of formative practice and we know from Black and Wiliam's research that this approach to teaching and learning improves learning and raises standards. It achieves this through effective feedback, a shared understanding of learning intentions and criteria for success, self-assessment and goal setting, and an active involvement by students in their learning.

When we take these characteristics and embed them in teaching and learning with the added benefits of an eportfolio, we can achieve an effective blend of pedagogy, assessment and elearning.

ePortfolios can potentially support and enable the elements of formative practice through utilising Web 2.0 tools which facilitate interaction, sharing and engagement in the process of learning not possible before.

While the chosen technology of the eportfolio allows this to happen, it is the actions of the teachers that will make the difference between portfolios that authentically support the learning process rather than those that just showcase the product.

This project investigates how eportfolios support a formative assessment approach to learning. It uses two case studies of primary school classes as they implement an online eportfolio solution. Interviews with students and teachers and the learning and reflections within the eportfolios are used to compare the outcomes with the underlying characteristics of formative assessment. This will enable an informed discussion on the question; What are the formative benefits of eportfolios?

Research Methodology

Research Question

What are the formative benefits of eportfolios?

Methodology

This research involved the case studies of two primary school classes as they undertook the implementation of student eportfolios that supported assessment for learning.

Case studies gave the researcher the opportunity to collect detailed information about the participants through observations, interviews and examining learning samples, feedback and reflection within the eportfolios.

The two teachers additionally undertook informal action research cycles. The plan, act, observe and reflective cycle of action research enabled the teachers to trial and adapt their teaching and implementation of ePortfolios to further develop formative strategies.

Support was provided throughout the project by the two teachers working alongside each other and the researcher to examine their teaching practice and collaboratively plan and set sustainable goals for self and school wide development in eportfolios that supported assessment for learning.

Participants

The students and teachers participating in this project are from the year 3/4 and year 5/6 digitally enhanced classes at Russell Street School in Palmerston North. Russell Street is a decile 9 contributing primary school with a roll of approximately 310 students. The school led an ICTPD cluster from 2001-2003 and is currently part of an EHSAS cluster with two other schools focusing on 21st Century learning models.

All participants, and parents where appropriate, were informed of the purpose and goals of the research and the implications that this would have on them. They were required to complete and sign a permission form confirming their involvement in the project.

The teacher of the year 3/4 class is in her eleventh year of teaching. She has taught at all levels of the primary school as well as being a specialist ICT facilitator in an international school. She has been part of an ICTPD cluster, was the establishing teacher of the first digital classroom at Russell Street and has responsibility for elearning in her current role of acting DP.

The teacher of the year 5/6 class has been teaching for ten years. This year is his first year teaching in a digital class. He has taught in New Zealand and overseas, is currently responsible for AtoL and EHSAS throughout the school, leads the senior team as part of his

AP responsibility and is seconded to Massey University's Centre for Educational Development in the role of AtoL facilitator.

The year 3/4 class had 29 students, 14 girls and 15 boys. The year 5/6 class has 29 students, 12 boys and 17 girls. While the majority of students agreed to participate in this research, all students regardless of whether they are participating in the research or not, are using the online web based portfolios to share learning.

Data Collection

Data was collected using the following methods.

Interviews: Both teachers were interviewed at the beginning of the data collection phase, the midpoint and at the conclusion of the project. They were interviewed separately and together. Students who consented to be part of the research, were interviewed throughout terms 2 and 3 and were interviewed individually or as part of a focus group. Interviews were recorded and transcribed.

Observations: Ongoing observations of the teachers and students as they went about their daily routine were undertaken. A particular focus was given to times when the teacher was facilitating learning with eportfolios and when students were actively inputting or updating their eportfolios. General classroom practice and the physical environment were also observed.

ePortfolios: The eportfolios were a highly valued source of data. Learning artifacts, reflections, comments and feedback were analysed to provide evidence of how they supported or demonstrated assessment for learning practice.

Data Analysis

Data was analysed using the following indicators as a guide. These were developed to take into account the characteristics of formative assessment, the role of the teacher and the expected outcomes for the students. It was also necessary to recognise the teacher's role in the technical side of the eportfolios through selecting an appropriate tool and using the features available.

The Teachers:

- Knowledge of formative assessment.
- Designing appropriate application for portfolios.
- Introducing and practicing formative elements of learning through ePortfolios.
- Reflecting upon and changing teaching to meet identified needs.
- Making the most of the special benefits and features of ePortfolios.

The Students:

- Knowing what they are learning
- Knowing how they can achieve success
- Knowing the next steps in their learning

- Reflecting on their learning
- Taking action

The data collected from the interviews, eportfolios and observations was highlighted and categorised into the indicators listed above. This was completed in two stages. A general first impression analysis where all indicators were identified and then a more focused and separate analysis for the teacher and student indicators.

Formative ePortfolios: The Teacher's Perspective

Knowledge of formative assessment

Both teachers were clear about what assessment for learning is and what it means for their teaching and for their students' learning.

It's about children being informed about their learning, making choices in what they are learning, knowing if they are successful in their learning. So together looking at examples, completing work together, as a class so when they do it independently they know what is expected of them. It's about getting feedback from themselves, from each other, from home, from their teacher, from anyone on what they are doing well, what they need to improve on and how they can do that. Guiding the kids and working together.

Formative assessment for me in this class is... the biggest word is partnership. Partnership in learning that the teacher is no longer the know all, end all, be all standing in front of the class spouting lots of information. There is a partnership to be involved engaging the students as much as possible in their learning. Getting the most out of them so when you go to plan a term as we do, talk to the kids the previous term, "So what is it you really want to focus on to learn next term?" So the partnership is evolving... that's part of it, but also making very clear what it is they are learning. It is a huge part of it and of course that is where the learning intentions form such a huge part... and building success criteria. A key concept there is basically formulating the criteria and matrices with the kids...

The expectations or outcomes of learning when focused around formative practice can be significantly different between the age levels at school but both teachers involved in the project had similar expectations. They described the expectations they have when a child leaves their classroom, again drawing on the fundamental characteristics of assessment for learning:

I would hope that they are able manage their time, they are organised, That they are, with whatever they are learning about, even if they do not know the answer, that they know how to get that answer. So who would they go to for help? where would they go for help? They have got the ability to, or the knowledge of, knowing what and how.

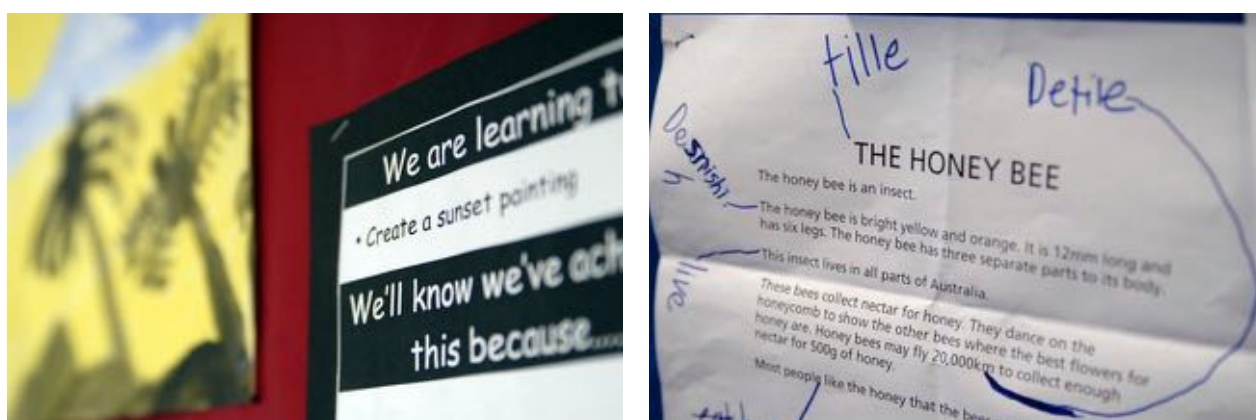
The biggest thing that we are trying to build, or I'm trying to build, is that the kids have a very clear reason of why they are doing it, they know what they are learning, they know the purpose for why they are doing something. It is not a case of I'm being told to do this so I have to, I can see there is an outcome for it. There should almost always be an audience for it, therefore learning is not done in isolation, I know there is going to be a reason for it at the end. And of course, building independence. How can I achieve the criteria? The checklist? What do I have to go through? What do I need to make this learning authentic or better?

The classroom environment of both classes involved in this project immediately illustrate the teachers integration of assessment for learning in all aspects of classroom teaching and

learning. It also provided evidence of the strategies the teachers used to encourage students to take control of their own learning as their previous expectations described.

Learning displayed in the classroom was accompanied by an explanation of the learning intention and success criteria. For learning that was current, this information could also be seen around the classroom to prompt and allow students to refer to it throughout the day. One teacher also organised this information using a flip chart, kept close to the teaching station, which allowed the teacher to refer to previous learning as well as the current focus.

Additional to the success criteria and learning intention, exemplars of quality learning could also be seen around the classrooms, particularly for written language. These were often annotated by both the student and the teacher, as they have highlighted specific language features related to the genre during the process of co-constructing the success criteria.



The teaching of numeracy in these classes also demonstrated a high level of formative practice. Central to any learning experience is the sharing of the WALT, recorded in a modeling book. Each numeracy group had their own book, an A3 spiral bound flip chart, used to demonstrate and share learning and record progress. Due to the nature of the book, teachers and students could easily refer to previous learning and it can be used by students as a resource if they experience difficulties.

For example 3 girls yesterday didn't meet what we were doing so their names are recorded saying these students need more help in this. Four kids did meet it so they need to move on. I am consciously annotating in this book where they are at, what they need to do and what needs to happen next. So that is a huge formative model itself...

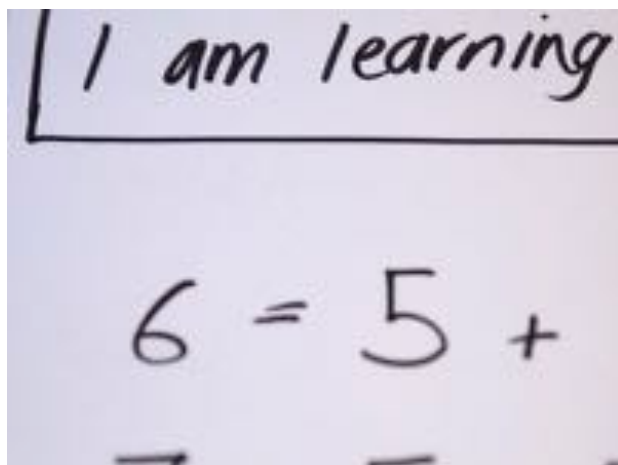
The classroom environment also provided evidence as to the strategies and prompts the teachers used as part of their assessment for learning practice. One clear example of this was the use of a flow diagram mobile that could be seen hanging from the ceiling. Starting at the top the diagram asks the question, "Think you have finished your work?" then continues to "Now what?" followed by a further five steps:

1. Check against the success criteria
2. Make changes if needed
3. Ask a critical friend to check your work
4. Make changes if needed

5. Conference with [teacher's name]

This process reinforces the role of self-reflection and peer-evaluation of learning against the agreed success criteria. It also promotes self-directed learning where the students are actively taking responsibility for their learning with guidance and feedback from others.

A target is also displayed around the classes prompting the children when they are reflecting on and self-assessing their learning. The indicators of Need Help, Almost There and Can do! Achieved! are also used for constructing matrices when a more thorough reflection on the success criteria is required.



The teachers describe some of their strategies and provide evidence of assessment for learning being alive in the classroom:

Learning intentions are displayed around the class, together we build criteria, and that is recorded somewhere in the kids work or just somewhere on the wall.

You would hear in the classroom, talking about the learning intention... kids can very clearly articulate, "We are learning this..." or "I am learning this." If you walk in, you should actually be able to hear the conversation by talking to the kids.

The biggest thing I think we want is dialogue and conversations with the kids.

For a start you would see the learning intention chart so every time we have a new unit, or we are learning something what ever it may be, like learning to use paragraphs in our writing, you would see what that looks like, you would see examples of that, you would see the success criteria saying this is what it means.

You would see and hear... if they say, "I'm finished!" directing them back to the success criteria. Have you checked yourself against the success criteria? Assessing themselves. Have you asked a buddy or critical friend to check you against the success criteria?

I think that at this age level there is probably a lot more modeling of that process like we will be a critical friend as a whole class for a particular person and have turns at

being that particular person... I think we need that whole critical friend modeled time and time again because I think they need that.

Another worthwhile strategy was using highlighters to indicate parts of a student's draft written work that have met the criteria or areas that need improving.

When we write it in our books [the teacher] highlights it so we know what needs fixing. If it is green then you need to extend on ideas and add more detail. If it is yellow it is full stops and punctuation and orange is you have done a good job. Year 4 Students

This feedback confirms to the student what they have done well and also shows where improvement is needed and accompanying prompts give students advice and ideas on how to improve.

Classroom observations confirmed these strategies and more. Most significant was the active questioning and guided reflection that reinforced students taking control and directing their own learning. Teachers themselves modeled the process and involved the students in every step, questioning and focusing on the learning.

One teacher used a variety of prompts over a ten minute period when facilitating reflecting on learning:

Is there enough detail in this example? What more could I add? What could I say? What does that mean? What did I learn? What do you want to focus on next week? How are you best going to do that? You are going to have to make choices about...

Throughout this process the data projector was used to display student learning. Examples are shared and critiqued. Students are invited to solve problems, offer advice and direct their peers back to the success criteria to improve their learning.

...the data projector on, us with a piece of writing going through it together as a class, where would we put the paragraphs in?

A teacher further describes this reflective process:

We do consciously sit down and reflect on what we have just done. How was the learning? How did you go? What was hard and what do we need to talk about right now? Who else found it hard or easy? Right, you found it easy? You tell this person how you did it and share that way...

Informal strategies to monitor student progress and how the teachers adjust learning and guide student improvement was constant and ongoing. These strategies were both observed in action and discussed:

...one of the best things you can do as a teacher is just talk to the kids. Your observation and knowledge of the child and the class as a whole tells you more than a pen and paper test can tell you...

Evaluating the whole time to see what the kids are doing, saying, Yes they've met that, no they haven't, I've got to redo this again. Talk to the kids, I mean going through with them at literacy time, have you been able to do this? No I haven't. OK so what do I need to do now? Right, I am going to do this next.

When you say to them have you checked it against the success criteria? And they go, "What?" you know that kind of tells you that they don't understand that success criteria are there for them to measure themselves against.

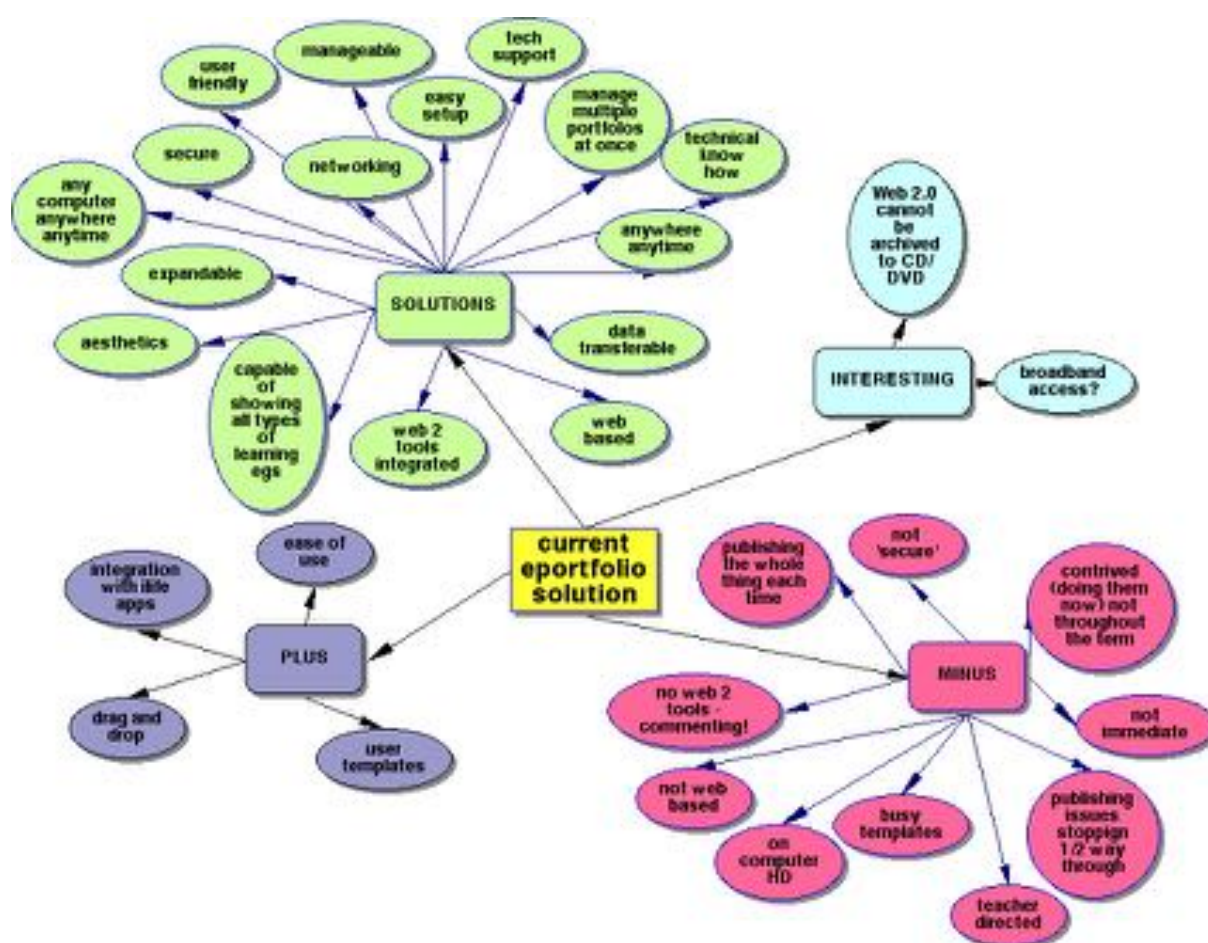
Both teachers have an excellent understanding of formative assessment and engage students in strategies to facilitate an understanding of what they are learning and how to improve. The classrooms confirm an environment rich in this approach with prompts to remind students to constantly be aware of and reflect on their learning.

Selecting appropriate ePortfolio solution

Both teachers involved in this project had used eportfolios as a method for sharing learning throughout 2007 and for term 1 of 2008. This was an alternative to the book based eportfolio which has been established at the school for almost ten years.

The tool used for the eportfolios was iWeb, provided free to schools through the Ministry of Education software agreement, and part of the Apple iLife suite of applications. The portfolios were updated on an ongoing basis throughout the four terms and went home at the end of each term on a CD.

This was not ideal. The PIMS reflection below, an adaptation of De Bono's PMI reflection, allowed the teachers to describe the plus, minus, interesting and solutions, to the current eportfolio situation.



Of particular interest were the minuses, with a lack of immediacy in sharing learning, lack of ability to leave comments and feedback as well as the underlying contrived nature of the portfolios due to them being taken home at the end of each term.

One teacher explains further:

Yes, and I think it is one of the biggest benefits of ePortfolios is that maybe even the word portfolios changes. Not the word journey, we don't like that, but it is just ongoing. Learning that is being uploaded. I've done this today, add it to my learning

portfolio. Mum and Dad can share it that day ... I think that is the biggest benefit of the ePortfolio, that you can upload constantly what you are learning so the fact the kids are blogging on their site is one way they are showing their learning instantly with Mum and Dad. And I think just that anywhere, anytime access, not isolated to that iMac which is the big disadvantage of iWeb. It is not supposed to be contrived and I think that's what has happened in the past. Portfolios were very contrived.

The PIMS reflection allowed the teachers to state what they wished for in an eportfolio solution.

First wish, online now. Live now, that's my first wish. Just so that when the kids have finished a piece of work they can put it up there and get feedback immediately from whoever and wherever. I don't see portfolios working to their potential if they only go home once a term, so that is part of that anywhere and anytime idea. The second wish is that because it is going to be online based it is accessible for anyone who has the password. Unlike iWeb where only the child could really work on it, or blog or comment.

The teacher's proposed solutions to the current situation formed the basis of an eportfolio solution criteria checklist for looking at alternative options to iWeb.

- *Web based (anywhere, anytime):* Strong interest expressed to create online portfolios rather than saved to CD. The ability to work on and view the ePortfolio from any computer both within school and home would allow greater flexibility for all participants.
- *Web 2.0 tools integration:* Increasingly student learning incorporates the use of Web 2.0 tools such as Animoto, You Tube or Google Apps. Being able to embed or access this learning within the portfolio is desirable as is the ability for interactivity such as RSS feeds, commenting and feedback.
- *Ability to comment and reflect:* Teachers discussed the need for the students, parents and teachers to be able to actively comment on student learning during and after learning is posted in the portfolio.
- *Ability to demonstrate learning:* The ePortfolio solution needs to be able to display (show within the portfolio not provide a link to the file) all the possible media that the students will generate or want to share. This includes but is not limited to: podcasts and movies (.m4v, .m4a, .mov), documents (.pdf), images (.jpg, .png, .gif) and embedding Web 2.0 content.
- *Social networking:* If the solution could help facilitate collaboration between users and generate a social learning network it would be an additional benefit to assist learners in obtaining feedback and constructive comments for further learning.
- *Access/edit from mobile device:* Of increasing importance as mobile computing and internet becomes ubiquitous (for the purposes of this research an iPod Touch was used for testing).
- *Secure:* Making the online portfolios secure and password protected is a high priority for parents.
- *User friendly:* Teachers were very clear that the ePortfolio solution should be easy to use for everyone from the Year 3 students to the parents and potentially, relatives who are overseas. This will mean the emphasis of the portfolios is on learning and reflecting, not the constant teaching of skills that enable it to be done.

- *Aesthetics*: The presented solution should be visually clean with a simple yet functional layout.
- *User storage space*: The solution requires the ability to provide a significant amount of disk space for each user. Based on the ePortfolios of 2007, this would be an average of 100MB per user.
- *Manageability*: The solution needs to be easy to set-up, manage users, administer and moderate comments. This is especially so for the teachers who need to access a whole class of student learning for commenting and feedback.
- *Expandable*: The solution needs to be able to incorporate any new technology or learning innovation that may occur.
- *Tech know how*: The solution needs the users and administrators free from having any specific computing knowledge such as the ability to program in html or php. Any problems and questions should be able to be answered through the product's associated online tech support or documentation.
- *Tech support*: There needs to be an active user community with associated forums, documentation and development.
- *Free*: A free ePortfolio solution would be ideal although this may also incur additional hosting costs.

Six eportfolio solutions were trialled and tested including the current option of iWeb. The software was installed on both a local machine and through our school's hosting service with the exception of Knowledge Net which is provided through a subscription service.

For the purposes of this comparison the solutions were scored using the following descriptors against each of the criteria.


- 1= a good solution that does or has the most of the features outlined in criteria
 2= an average solution that does or has some of the features outlined in criteria
 3= a poor solution that does or has only a few of the features outlined in criteria


	<i>iWeb</i>	<i>Elgg Classic</i>	<i>WordPress MU</i>	<i>Knowledge Net</i>	<i>Mahara</i>	<i>DrupalEd</i>
<i>Web based</i>	2	1	1	1	1	1
<i>Web 2.0 tools</i>	3	2	1	2	1	1
<i>Comment, reflect</i>	3	1	1	2	1	1
<i>Demo learning</i>	1	2	1	2	2	2
<i>Social network</i>	3	1	3	3	1	1
<i>Secure</i>	3	1	1	1	1	1
<i>User friendly</i>	1	2	2	3	3	3
<i>Aesthetics</i>	1	2	1	3	2	2
<i>Storage space</i>	1	1	1	3	1	1
<i>Manageability</i>	3	1	1	1	1	2


	<i>iWeb</i>	<i>Elgg Classic</i>	<i>WordPress MU</i>	<i>Knowledge Net</i>	<i>Mahara</i>	<i>DrupalEd</i>
<i>Expandability</i>	3	2	1	3	2	1
<i>Tech know how</i>	1	3	2	3	3	3
<i>Tech support</i>	1	3	1	2	3	2
<i>Cost</i>	1	1	1	3	1	1
<i>Mobile device</i>	3	2	1	2	2	2
TOTAL	30	25	19	34	25	24


A brief summary of each of the eportfolio options:



- iWeb*: A great intuitive programme that integrates seamlessly with iLife programs. Easy to use for all students with it's drag and drop capabilities. Unfortunately is worked on locally and saved to the computer's hard drive and unless student homes are networked, students need to always use the same computer to edit their portfolio. Multiple users on each computer is possible using an application such as iWebSites. Some features such as commenting on blogs are only available when the site is hosted on MobileMe. Apple only solution.


- Elgg (Classic)*: An excellent application with all the features required to effectively create a learning portfolio (when using the Folio plugin). Has the additional benefit of the social networking environment to facilitate learning conversations between learners. The support is poor and the documentation virtually nonexistent. Also some examples of learning such as podcasts, could not be embedded in the pages and only a link could be provided for downloading the file. With more support and documentation, this product would be very hard to beat.


- WordPress MU*: A multiple user/blog version of the standard WordPress. Users can create blog posts and nested pages which allow for commenting. High number of plugins available allowing media files of all description to be used and a high degree of site customisation. Secure (when using the WordPress Password plugin). If it had some social networking capability this would be an almost perfect solution. Great user community and support. WordPress also provides a mobile application for updating on the go when using an iPod Touch or iPhone.


- Mahara*: NZ developed ePortfolio solution. A great feature list that is suited very well to the secondary and tertiary level but possibly not so suited to younger primary aged students due to its complexity. User can create blogs, forum and engage in learning communities, upload and comment on files. The concept of creating different views for different audiences is excellent and is achieved much more simply than other solutions.



- *Knowledge Net*: A hosted service which your school may already subscribe to. A secure environment which is easily set up. Users can create their own pages within their eportfolio but commenting and reflections are limited but look to be included in future versions. Lacks an intuitive user interface. Space is also restricted to 20MB per user which is not adequate and highlights one of the disadvantages of a packaged option. As it is a hosted service you should have no technical issues as they are not your responsibility. 
- *DrupalEd*: This is a comprehensive solution that harnesses the power of the Drupal CMS system and blends it with a number of educational features similar to those of Moodle. Users can create wikis, blogs, pages, upload files and comment and reflect upon them, create and belong to groups and classes, add comments to other blogs and it also includes other social networking features. A great feature list that is suited very well to the secondary level but not so suited to primary aged students. Perhaps also too many features for the average teacher to administer. 

From this comparison and through hands on use, we concluded that iWeb is the easiest and most child friendly of all the solutions but it lacks Web 2.0 tools and interactivity. DrupalEd and Mahara both have a huge amount of features but lack the intuitiveness that would enable younger users to easily use the tools for their learning. Elgg is a great product and the arrival of the new version in mid 2008 could make this the number one choice but its lack of support is disappointing.

In the end, WordPress MU was the favoured option for this project. While it is not the perfect solution it has more benefits going for it than any of the other solutions. It has a huge user and support base and is regularly voted as one of the top blogging and Web 2.0 tools. At this stage it does everything needed for displaying all modes of student learning, integrating Web 2.0 tools with the additional ability to comment and feed forward on learning from any internet ready computer. Future projects, such as BuddyPress which turns WordPress MU into a social networking platform while retaining all of its features, looks like another plus for WordPress.

The teachers discussed WordPress after their first term of using with their classes.

So much better than the iWeb eportfolios that we couldn't put on the Internet. Like we put some work on there in the second to last week. By the end of the day the child had three comments on it from family. We only put it on that day! It was just amazing! Things like, "It was so good to see your work," and "I can see you have worked really hard at that..."

Yes. One of my children went home and that night realised she had missed a slide off her presentation so she came back the next day, put the slide back in and then that night it was done again for her to share. But I think that one thing I would say... I do find having been exposed to it so much last term, it is quite intuitive... you just go click click click and it [WordPress] all makes sense. There are kids in the class now, there are about five who are experts, and they say it makes sense too. It is really quite easy to work.

I am amazed... I've got a couple of year 3's who are so on to it. [Student name], far out man! He is just amazing. We created some space crosswords last week and for weekly reflection, he went on, did his reflection, talked about what he was going to work on, went into Google, got a photo of a crossword, downloaded it, attached it and and he did that after only doing it once before.



The students also found it to be beneficial, particularly the fact that it was Internet based and it allowed a greater audience to view their learning.

I quite like the ones on the Internet. Because then you can tell your grandparents or relatives over in a different country how to get in and see your work. Year 6 student

...on the Internet because you can do some work that you need to catch up on at home. Year 4 student

...with the paper ones you can only take them home for a certain number of days but with this one you can go on it, if you have Internet, and you can go on it like every day. Year 4 student

It is better than writing them in books because you can write comments more simply on the computer and people can leave you comments. Year 3 student

Yeah it's great. It is just as simple as the iWeb really. Year 6 student

It depends if the Internet is fast or slow but I like the internet eportfolios because you don't have to go back to one particular computer like with iWeb and you can do it from home and stuff like I did my weekly reflection at home on Thursday night so I did not have to do it on Friday. Year 5 student

The last comment highlights an important point with WordPress and any internet based eportfolio option, that of high speed internet access. The availability and quality of broadband Internet was often discussed and observed in the classrooms. One teachers described the problem:

Yes it is good. The only time it has been a pain was when the Internet slowed down. We couldn't do anything. If we don't have broadband, that is the only problem. The kids were trying to do their weekly reflection, and I said, "Look you just can't, don't bother."

Quality Internet access is not only an issue at school but also at home especially if broadband is not an option.

They load very slow and stuff... Well when I look at it at home it doesn't actually work...
Year 6 student

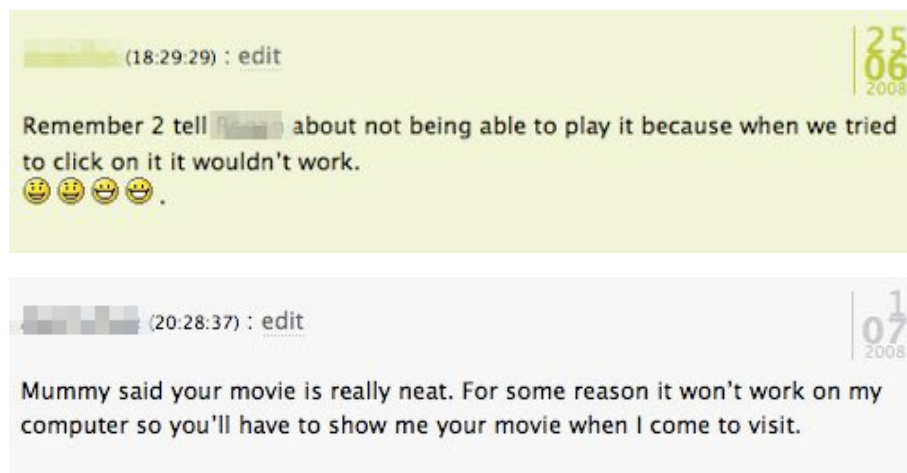
And sometimes like its got "you need upgrades on your computer" and sometimes you don't have broadband... Year 6 student

Additionally some users experienced issues, not only with Internet access, but with the eportfolios and the multimedia content.

The only other problem I can think of is that there are still some parents at home who can't access the site or the movies and that may have something to do with their systems. I don't know, all I can say is that it works at school on my Mac and at home on my PC.

Yes, I had some parents come to me, on the last day I think, and say it wasn't working at home, but I went home and checked it and it was working fine. I have only had one parent, who couldn't even log-in, so that tells me that it is possibly not a computer or technical issue but a user problem. Other than than it is pretty good.

Comments were also left on the eportfolios which identified this issue further.



The source of these problems is hard to discover. All features of the eportfolios and the wide range of learning that is demonstrated through them were thoroughly tested on both a Mac and Windows machine as part of the selection process. In the test scenarios and in the majority of cases the eportfolios have worked seamlessly.

This does highlight an important point in that no matter how carefully you select a product and test it, you are not in control of the technology that is being used outside of school in order to connect to the service. A standards compliant web based tool, such as WordPress, eliminates platform specific issues but individual home computer setup and configurations can not be monitored.

Making the most of the benefits and features of ePortfolios

At the beginning of the project both teachers could clearly identify what they believed to be the benefits of eportfolios over traditional paper or book based portfolios. This is important to note as without understanding the full benefits and capabilities of the software, it is hard to make the most of the features available.

One teacher described the perceived benefits:

- *instantly interactive, it is online with the parents, so they can communicate with their child straight away*
- *it is what is happening in the classroom right now, and can go straight home*
- *anytime access*
- *being in the digital class, with most of our learning being digital, lends itself far more easily to put our learning on... that is a huge benefit that [teacher's name] and I have, is that everything we do is what happens in class and can go straight on.*

These thoughts are echoed and added to by the other:

- *anywhere, anytime, anyplace (and anyone with a password)*
- *the fact they they are live so that they can do a piece of work, they can put it on there, they can check it, their grandparents can check it, I can check it, friends, critical friends can check it and give them feedback...*
- *it is not always going to be finished work... I mean, I think that in the past the portfolios are often a finished, very neat tidy pretty piece of work whereas it doesn't show the whole process the learning has gone through*
- *you can put snippets and the whole process*
- *have things like movies, interviews, audio, sort of like that whole SISOMO.*
- *I think it is going to give a more realistic picture of where the children are at than a paper portfolio in particular.*
- *I think they will be more informative to parents and the child, than a report. They will be able to see exactly, "This is where my child is at."*

The teachers identified the majority of the common benefits of eportfolios. The anywhere anytime access, giving feedback, networking, sharing the process of learning, use of multimedia, and authenticity are highlighted by the teachers.

Their thoughts on the benefits of eportfolios did not change over time. When interviewed at the conclusion of the research period, both teachers reiterated the benefits listed above especially the ability to share the process as it happens.

The eportfolios themselves provided ample evidence of these benefits being implemented.

The use of multimedia was common place in the eportfolios. This allowed learning to be presented as learning was designed and intended. In most instances podcasts, movies, audio, slideshows, animations and images provided a rich and authentic eportfolio environment for presenting learning.

Multimedia content was uploaded and stored within the WordPress eportfolio system rather than being uploaded to sites such as YouTube and then embedded in the student's site. One of the main reasons for this was due to the often personal content contained within the learning and a desire to keep this private as is prescribed in the school's current Cyber Safety policy. While sites such as YouTube allow users to control who can access and view videos, embedding private videos in blogs becomes problematic.



Movies

My fearless play

WALT: record a play in garagband.

My play is about two goss and a vampiier and also a moster all trying to scer the browns and here it is.



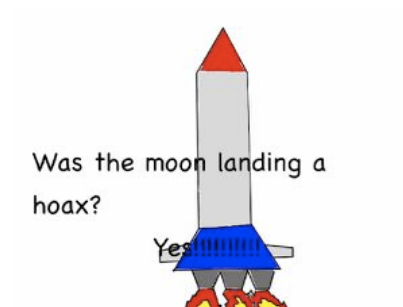
Audio podcasts



Images



Podcasts



Slideshows



Animations

Uploading and storing multimedia within WordPress was not without problems either. The ISP's upload limit for a single file was 10MB which on occasion meant that some student learning could not be posted in its entirety or at all.

One teacher discusses the issue:

I said to the kids to go home and tell your parents that you have done too much work this term and it can't go on there. That was a bit of a pain.

To overcome this and still present the learning, teachers suggested to students they could post some of their learning, such as one or two slides from a presentation, or use screen captures to give a snapshot or sneak peak, while encouraging parents to come in to school to view the full project.

Examples of this can be seen below.

Invent a Sport

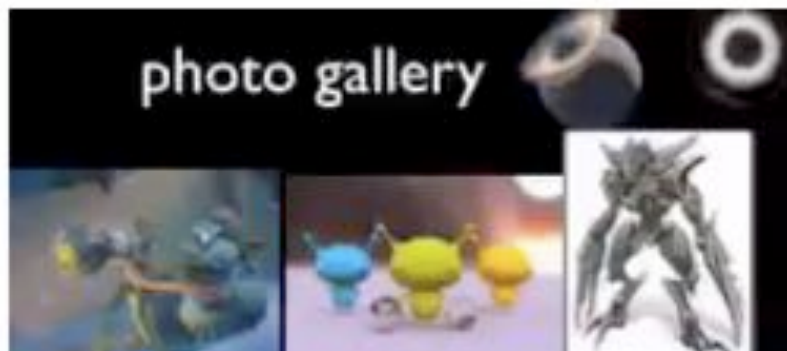
WALT: think creatively.

My invent a sport is too large to place on my e-portfolio so I have put some photos on to show what it looks like. Feel free to come into class to view the actual movie.



Space inquiry

this is a sneak peek of my key note



Not all content and learning in the portfolios used multimedia. Some learning was never intended to use the medium for sharing knowledge and understanding. However the way that learning is presented, regardless of its multimedia content, could further highlight the benefits and ease at which portfolios can engage readers with design and layout.

As an example compare the two blog pages below:

term reflecoin
3
what! This term I finished my paper mache and now I am helping everybody with there's...
as what! This term I learnt that not even a beam of light could escape from a black hole.
now what! Next term I want to focus on getting all of my work finished on time and I can do that by not getting distracted by my friends and not sitting by them.
these are some space pics I want to show you.



symitre
27
what! This term I finished my paper mache and now I am helping everybody with there's...
as what! This term I learnt that not even a beam of light could escape from a black hole.
now what! Next term I want to focus on getting all of my work finished on time and I can do that by not getting distracted by my friends and not sitting by them.
these are some space pics I want to show you.



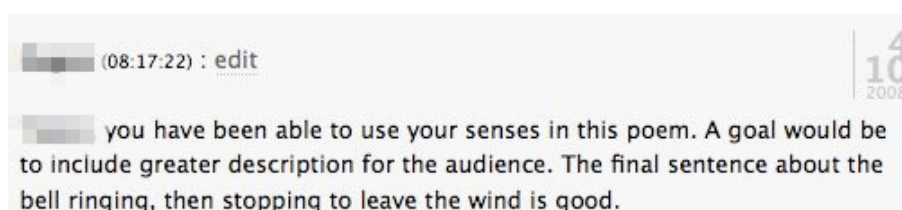
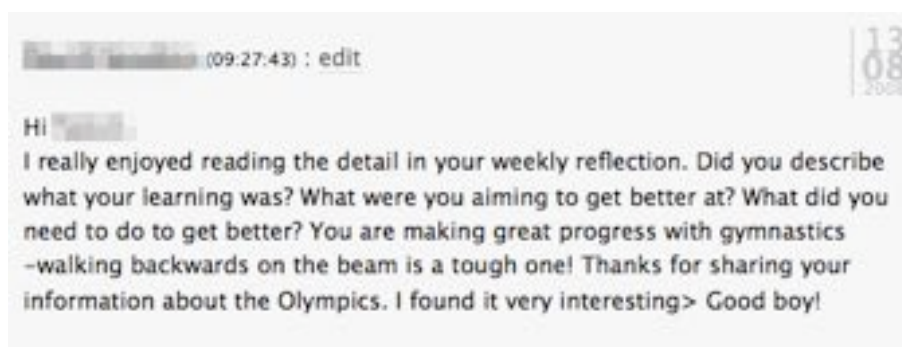
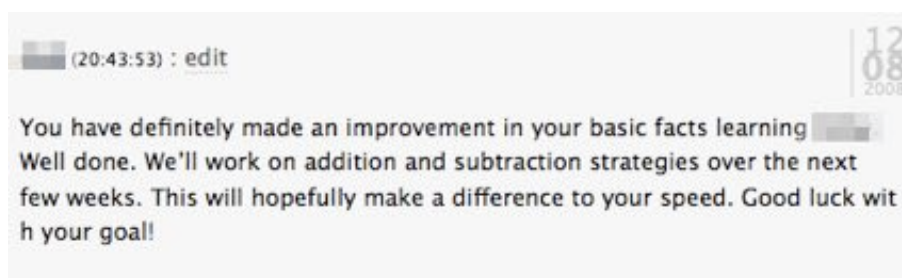
Weekly Reflection Term 3 Week 9
19
What I have done: This week I have done basic facts and learnt my goal with was to get under 2 minutes I got 1:03 with 100% right.
What I have learnt this week I have learnt how to do art prints you draw a picture on card board cut it out then glue it on another piece of card board after that paint it then put a piece of paper on the print push it down hard then take it off and then the print will be on the piece of paper.
What I will focus on next week: Next week I will focus on my basic facts and try to get at least 95 right in 1:45.

Weekly Reflection Term 3 week 8
11
What I have done this week: This week I have done my basic facts and I got 1:02 with 100% of the questions right.
So what I have learnt this week: This week I have learnt more about chance and probability.
What will I focus on next week: Next week I want to focus on my basic facts and get at least 1:00 with at least 95% right.

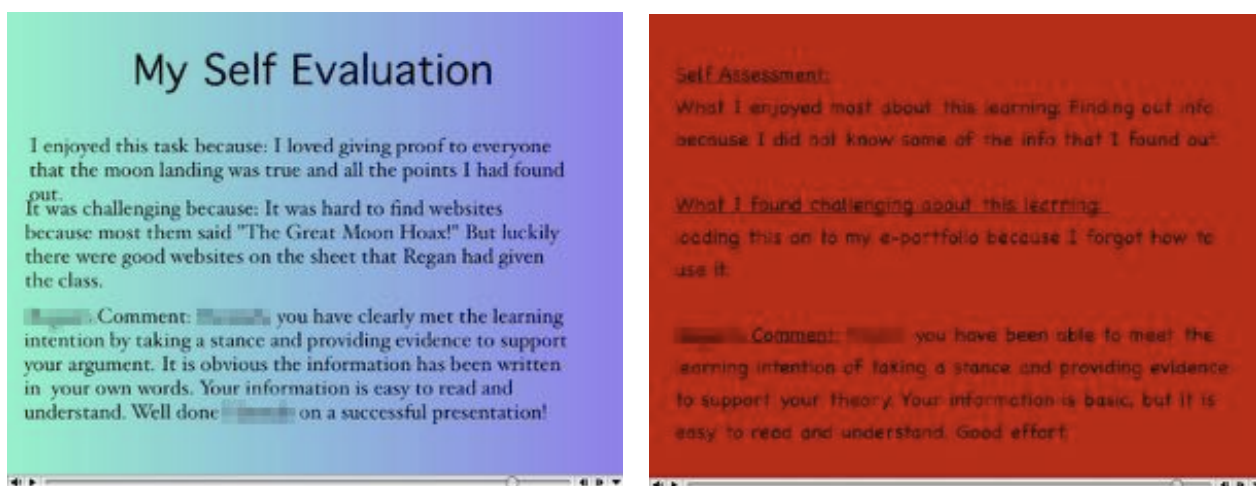
Weekly Reflection Term 3 Week 7
5
What I have done this week: This week I have done my basic facts and got my fastest time which was 1:03 with 100% right.
So what I have learnt: This week I have learnt how to play long ball, you have as many runs as you can put them in the shape of a rectangle. There is an area where we are not allowed to throw the ball in to, you are not allowed to throw the ball out on the full or you are out and if the fielders catch the ball on the full you are out. But if they don't catch the ball you have to try to run to the end of the field and back with out getting hit with the ball and the team with the most runs wins.
What I will focus on next week: Next week I will focus on my basic facts and try to get under 1:03 and at least 95% right.

The top image uses a lot more visual language and aspects of multimedia to support the reflective blog entries. This visual impact draws the reader to the blog in a way that text based blogging, shown at the bottom can't match. Adding images is a simple process and additionally allows students to personalise their eportfolios further through selecting imagery they think best compliments their learning. One easy way for teachers to achieve this would be to save and export learning to be published in an eportfolio, as an image such as a JPG or PNG, rather than a PDF which is not able to be embedded.

The commenting features allowed teachers to place feedback and encouragement for the students.



However feedback was not always shared utilising the built in commenting features of WordPress. In these cases the comments and feedback were contained within the work sample as shown below in the final slide of a slide show.



The teacher explained why commenting was completed this way:

It was nice to actually sit with the child and talk about the whole thing with them and it was just as easy to sit there and type it in on the slide and talk to them. Because if I had gone home and done it using WordPress, I was actually removed from the kid... Using WordPress would add another step to the process almost I think. Being on the spot I could conference with them and add it straight away.

While there is no right or wrong way to provide feedback within the eportfolio, and the feedback in an eportfolio is only a fraction of what takes place throughout the whole learning process, commenting in this fashion does not utilise some of the potential powers of using the web as a medium. Benefits such as searching for content within an eportfolio and subscribing to RSS comment feeds cannot be done if they are completed in this way.

A term later the same teacher reflects:

I prefer to do it in the WordPress commenting feature. I means I don't need to sit beside every child when they are doing their actually learning and embed it into their learning. So I don't need to sit there and make up a Keynote page or whatever. I can now sit at home and quite easily click on the comment and away I go. Much easier. I can still sit beside the child and still do, last week I sat beside two kids and wrote their comments beside them, using the commenting feature...

The process of learning was also increasingly being shown through eportfolios. Every learning artifact had an accompanying WALT, often written from the child's perspective, to describe the intention of the learning.

One approach for demonstrating the process has been to periodically upload learning in stages, each artifact building on the previous. In the example below the first image shows the links on a page titled My Life to iLife. Each link takes you to a PDF document of the draft stage, shown in the middle image, of the planning and writing before this is made and presented as a podcast. Below the images are the comments that the teacher posted encouraging and guiding the student during the process followed by comments from both the teacher and parents after the final learning was presented.

My Life To iLife

W.A.L.T: To compare and analyse

Starting Out:

[mitil-pdf.pdf](#)

More Information:

[mitil2.pdf](#)

3/4 stage:

[mitil3.pdf](#)

My life	To i life
In 1997 I was born on the 10th of June which was on my brothers birthday! What a surprise!	24 days later after I was born, a space-probe landed on Mars called Pathfinder. Now in 2008 I got interested in space-probes landing on Mars!
I move to New Zealand in 1999 when I was 1 and a half, and I arrive in New Zealand with my family on Waitangi day.	The clamshell ibook came out, very little that I knew that I would be using it in 2002. Also I did not either that I would be in a digital surrounded by leopard computers in 2008.



(09:20:25) : [edit](#)

27
08
2008

Good to see you are uploading the process of your learning. Remember to link the events to your life. If the event you elected is to challenging to compare with you, find another one. Keep up the great effort!

(06:23:52) : [edit](#)

9
10
2008

your presentation has definitely met the success criteria. You have been able to link international events with events in your own life. You can feel proud that your learning was used as an exemplar for other children to show them the expectations. Excellent effort.

Mom and Dad (20:49:23) : [edit](#)

21
10
2008

I watched this Podcast a few times over simply because I enjoyed it so much. Your choices of international events were well-selected and made with a lot of thought.

Capturing the process is further explained by the teacher:

...we know, as educators... that the process is just as if not more important than the product and so therefore the parents need to see that. Yes, you have done a great piece of learning, here's the end of it, big deal, but you have spent six weeks doing it and parents actually need to see. "Wow! My child has done this, this and this to get to the end result." It is far more powerful. So the kids are more excited about sharing the process.

Teachers and students have also utilised the digital photocopier to scan learning that was created in a non-digital format, such as in a book. This blend of traditional and digital learning has further enabled the process of learning to be demonstrated.

Below is an example of this approach. The first image shows a scan of the student's note taking and note making from an inquiry project booklet. The learning intention is clearly shown at the top and the process of first taking notes and then making them into the

student's own words is clear to see. The teacher's strategy of highlighting written work, as previously discussed, can also be seen and is a great insight into the process of reworking writing for improvement based on feedback. The inquiry was presented as a narrated animation, and the nature of the eportfolio allowed this, the scanned self-assessment, teacher comment and family comment to be available to present the full process of learning.

2008 Space: What's Up There? Famous 5, 2008

WRITTEN LANGUAGE: REPORTING ON THE PLANETS

WALT: TAKE NOTES
MAKE THESE NOTES INTO OUR OWN WORDS

NOTE-TAKING
(USE THE CHART BELOW TO HELP YOU TAKE NOTES ABOUT A PLANET.)

NAME OF PLANET	COLOR	ORDER FROM THE SUN	ROCK, METAL OR GAS	SMALLER OR LARGER THAN EARTH?	TEMPERATURE	NUMBER OF MOONS
Mercury	grey	1	rock	smaller	hot	0

OTHER INFORMATION

no wind or rain or clouds
 cloudy you could see stars in the night
 mercury is the only planet called after a Roman god

NOTE-MAKING
(USE THE NOTES ABOVE TO WRITE YOUR OWN PARAGRAPH ABOUT THAT PLANET.)

There is no clouds or rain and no wind. ^{there is} you could live on Mercury. you could see the stars at night because Mercury is an ^{very} ^{small} ^{planet} ^{very} ^{close} ^{to} the sun. It is very ^{hot} ^{at} the ^{surface} ^{of} the planet at ^{180°C}. Mercury has a ^{very} ^{big} ^{crater} and the ^{biggest} ^{crater} is ²⁸⁷⁸ km ^{across} ^{it} ^{is} ^{called} ^{Caloris} ^{Basin}. It has ^{no} ^{moon} at all. Mercury has ^{no} ^{moon} at all. Mercury is grey and has ^{no} ^{atmosphere}. It is made from rock and metal and it is the ^{first} ^{planet} ^{from} the sun. Mercury is very small.



Space Assessment		Formosa F Russell B School
Name: <u>Levi</u>		
Written Language, Oral Language, Theme		
Written Language	Need help	Sometimes
I can take notes	<input type="checkbox"/>	<input type="checkbox"/>
I can write my notes into my own words	<input type="checkbox"/>	<input type="checkbox"/>
I can add to notes information I add later!	<input type="checkbox"/>	<input type="checkbox"/>
I can use notation correctly	<input type="checkbox"/>	<input type="checkbox"/>
I use the highlighter properly to improve my work	<input type="checkbox"/>	<input type="checkbox"/>
Oral Language	Need help	Sometimes
My voice is clear	<input type="checkbox"/>	<input type="checkbox"/>
My voice is able to be easily heard	<input type="checkbox"/>	<input type="checkbox"/>
I have good expression	<input type="checkbox"/>	<input type="checkbox"/>
Self Skills	Need help	Sometimes
I could use any time well	<input type="checkbox"/>	<input type="checkbox"/>
I make the most of every learning opportunity	<input type="checkbox"/>	<input type="checkbox"/>

Goal is Comments:

Wow, you had so much enthusiasm and motivation in your learning. Well done!

You can take notes and write those notes on your cards. Make sure you re-read them well to memorize them if makes sense.

You have a fantastic voice that is informative and engaging. Well done!

Child Comment:

I think I can go on

(20:04:01) : edit

07
200

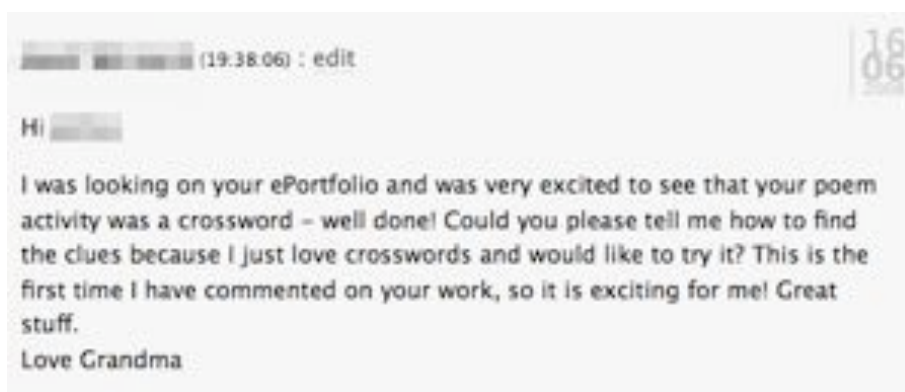
I agree with Mum and Dad. I learnt heaps of new stuff about Mercury. I like the way you took notes and were able to use them in your written work. I'll have to show my Year 4 class how clever you are.

The learning processes demonstrated above also mirror the AFL and ePortfolio Cycle described earlier in how the eportfolios would be implemented. Students acting on feedback they have received is critical to the assessment for learning focus of the eportfolios.

As has been mentioned, WordPress does not offer specific social networking functionality but even without this feature, elements of what could be called internal social networking were observed to be happening. Internal networking in this situation can best be described as when a student has given their password to another person, usually extended family members but not always, allowing them to access and comment on the student's learning.



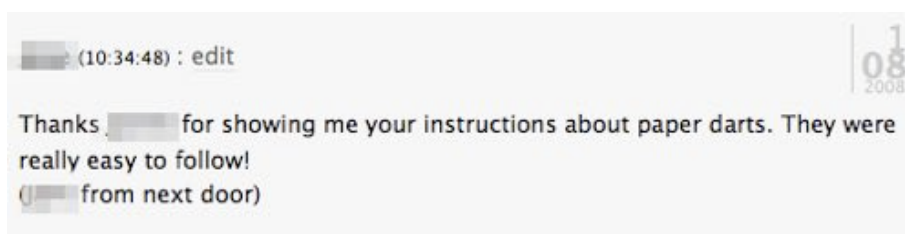
Siblings



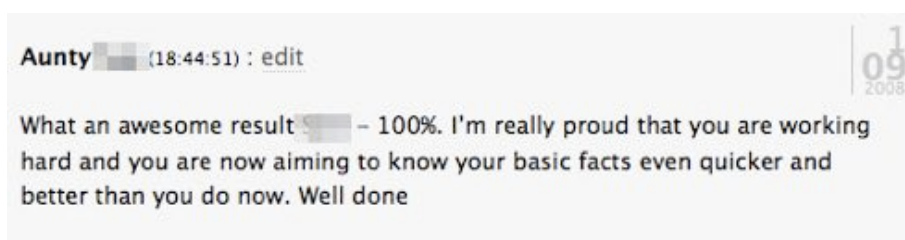
Grandparents



Friends



Neighbours



Aunts

Having parents comment and provide feedback is one of the main benefits described by the teachers and while this is not their responsibility to make this happen and to a great extent it is out of their control, they expressed their disappointment in the lack of comments from some families. In particular the parental involvement from the year 5 and 6 parents was on

the whole significantly lower than the year 3 and 4 parents. As of the end of the second term of using the web based eportfolios, the year 3 and 4 parents commented a total of 100 times contrasting to the year 5 and 6 parents who commented only 55 times. What is most significant is that 34 of 55 year 5 and 6 parent comments were for 3 students only and 14 students had no comments at all. In the year 3 and 4 class, 6 students had received no parental comments.

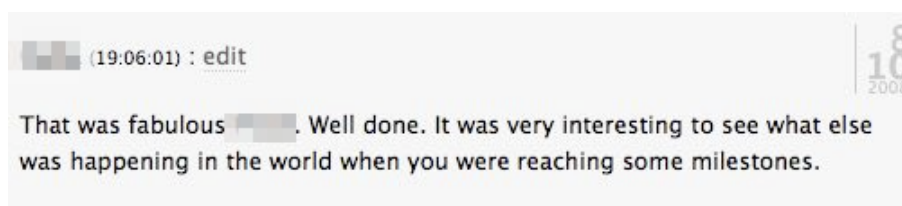
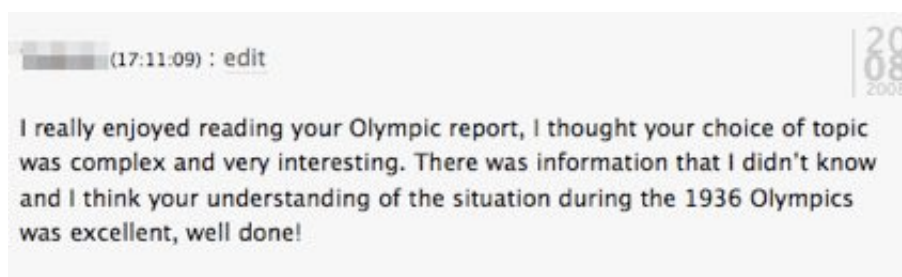
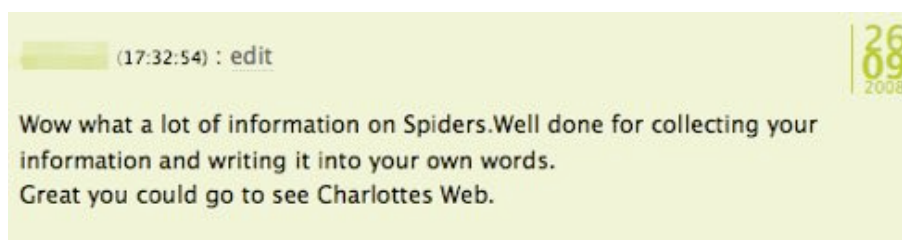
The perceived benefit of parents being able to access up-to-date information about their child's learning and provide comments and feedback has not reached its potential. At the beginning of the project, parents were provided with step by step guidelines on how to access and comment in the eportfolios.

The possible explanations for the lacks of comments were often discussed:

I know we talk about it all the time, but do you think they know, or are encouraged to read a comment? Do you think they just read it and then..? Do they talk about it and then they don't actually consciously think, oh I could comment on this?

Is that because they are younger? Naturally with younger children, parents are more adept, when they get to the seniors the parents are quite happy, "Yes I trust you. I've seen your learning that's great, we talked about it..." [Referring to the difference between the age levels and number of comments]

Unfortunately, the answers to this issue were beyond the scope of this research project but certainly merit further investigation. On a positive note however, the comments that parents did post were generally supportive and complimentary to the student.





One well described benefit of online eportfolios that wasn't mentioned or utilised by the teachers was that of integrating Web 2.0 features, particularly the ability to subscribe to RSS feeds. As previously described, RSS allows someone to link not just to a page, but to subscribe to it, with notification every time that page has new entries or comments. The fact that parents and teachers could not subscribe to a feed meant that they had to go to the eportfolio in order to see if there was any new learning posted, rather than being automatically notified. This goes against some of the core concepts associated with blogging and the collaborative and interactive nature of Web 2.0. This was not due to any fault of the teachers but to the technical nature of password protecting the eportfolios and the only way to get around this using the current eportfolio set up would be to remove the password protection.

Developing formative practices through ePortfolios

The teachers facilitated a number of activities that supported assessment for learning through eportfolios. As has been mentioned and discussed, these included giving written feedback related to the learning intention and having students involved in self-assessments. Two further examples of how formative practices were being developed was through focused goal setting as part of a set reflective activity, and questioning.

Both teachers engaged the students in a reflective activity known as Weekly Reflection. One of the teachers describes the process and some of the reasons for having the student complete this activity each week:

The kids do a weekly reflection every Friday. It is a really good opportunity for them to think about what they have learnt. I do it in three categories. What - What have you done this week? So what? What did you learn? And, now what? Now what do you want to focus on... I think that whole process from writing it down makes them really, really reflect on what they did do and what they did learn rather than them just saying, "I learnt how to..." and just skim over the top of it. They actually have to go through it in detail and it reinforces to them what they have learnt. They also set a goal for the following week, what do they want to focus on? and sometimes it is a particular area like maths, basic facts or sometimes it is manage my time or move away from my friends.

The students described their understanding of why they complete this reflection and whether or not it helps with their learning.

I find that OK. Yeah, sometimes I show my parents and just go through again and that reminds me about it. It's like a diary in a way. Year 6 Student

To see what you have done during the week. If you want your parents to see what you are learning about and things I guess. To have a goal to get things done. Year 6 student

...you can remember all the stuff you have done... and your parents can look at it too. Year 4 Student

...sometimes you can go onto it and check what you are going to do next week and what you are going to focus on. Year 4 student

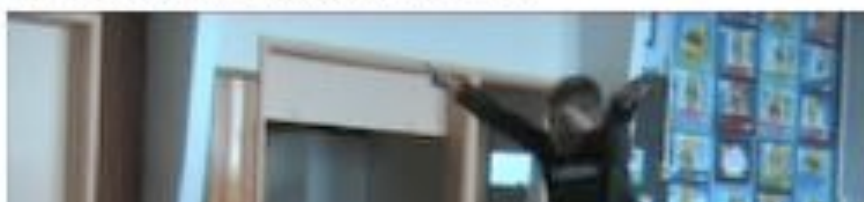
Gym

WHAT: This week we are learning to do gymnastics. We had to do the mini-tramp, the box, the floor, the beam.

WHAT: I find that you have to always keep your balance.

NOW WHAT: Now I want to learn how to do a back flip.

25
07
2008



wk2 Tm4



24
10
2008

What Have I Done: I have started my personal inquiry art of Unicorn: my art is a sketch and also started my background colours on my school mural.

What Have I Learnt: I have learnt about colour contrast and grammar.

What Will I focus On Next Week: starting or completing my hill colour or hill and maybe my windmills/Turbines.

The weekly reflections have proved to engage the students in their learning and reflection as well as provide evidence of student achievement:

The weekly reflections worked really well. When I read through them it is like, wow, the kids have actually done a lot this term.

...with their weekly reflections, especially the year 6's, they aren't just doing the one sentences answers of the what, so what, now what, a lot of the kids are very involved and want to write, they have a lot in their minds they want to get out and the eportfolio is a great way to show it. The kids really do dedicate a lot of time to that.

Some of them are going home and writing their weekly reflections at home before Friday. They are doing it at home, using that same structure, what, so what, now what... and come to school saying, "I've done my weekly reflection!"

However one teacher also expressed concerns over the goal setting element. The concern was that there were no mechanisms in place to monitor the goals that the students were setting themselves each week. The teacher decided to introduce another question prompt into the reflection process in order to engage the students in self-monitoring their previously set goal. Guess What? was added to the What? So What? Now What? prompts with the specific purpose of describing whether or not the student achieved their goal.

Reflection

guess what?I succeeded to get my fox key note done.

what?This week on wensday I did the long jump and the high jump it was really fun and really cool

so what?This week I learnt how to do relay races with the baten.

now what?Next week I want to focus on getting 100 in basic fact and my highest score is 96.

17
10
2008

Reflection

guess what? I failed to get 100 in basic facts. I got 92.

What? This week I have been learning about hoiho which is a declining species of penguin

So what? This week I learnt that hoiho means yellow eyed penguin. I think that the hoiho got it's name because when the mother gets close to the nest it says "hoiho" to tell the baby it's close.



Now what? Next week I want focus on getting all my work done to a high quality.

The images above illustrate the new process. In the weekly reflection at the top the student (year 4) has set themselves a goal: "Next week I want to focus on getting 100 in basic facts and my highest score is 96." The following week they reflect on that goal: "I failed to get 100 in basic facts. I got 92."

The teacher commented on this adaptation...

I think it makes them aware of what their goal was, otherwise I think they set their goal and some of them just forget about it. That's it, they wrote it and that was it. Whereas now they are having to remember what it is because they have to reflect on it a week later. They are quite honest in their reflection... now it is getting them to say why they didn't achieve it...

This illustrated an example of how the teacher's own action research cycle has implemented a positive change to the eportfolios and further supported formative practice. The teacher has taken one aspect of the eportfolio and realised how it could be modified to further enhance the students' self evaluative skills and self-management of learning.

Another development made to the process of using the eportfolios to further enhance thinking about learning and reflection, was in generating online conversations. Teacher directed questions, asked and responded to through the commenting features within the eportfolio, engaged students in thinking more deeply about their learning and reflections.

The teacher discussed the reasons behind initiating these learning conversations in the eportfolios:

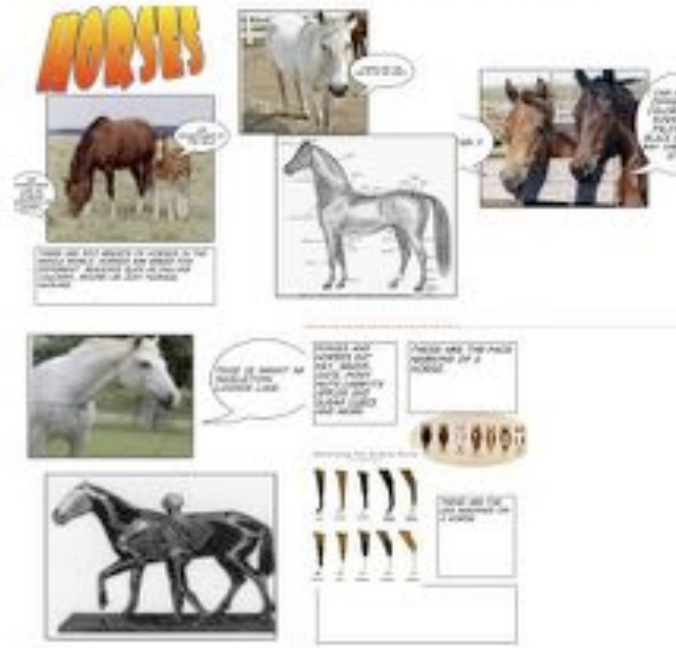
Well, because you comment on the child's work and the process and then their learning and that's it, you tend to just stop there. I have tried to put a question back to them, something that they have to think about beyond what they commented about... so that next step.

The examples below illustrate the learning conversations. The posted learning is at the top and the teacher questioning and student responses (with the coloured background) can be seen below.

Charlottes Web Inquiry

WALT: Find relevant information write information into our own words and present information of an audience. We had to include were it lives, what it looks like, what it eats, what kind of animal and special features.

26
09
2008



(13:02:37) : edit

30
09
2008

Hi [redacted]. You have presented your information clearly and in an interesting way. You have included the required information, meeting the success criteria. How did you go? Were you able to find relevant information, write it into your own words? Was there anything you'd change?

(09:19:26) : edit

14
10
2008

I think I found it easy to find information and write it into my own words. Next time I think I'd rather do a keynote instead of a comic life.

(12:43:28) : edit

15
10
2008

Why would you do a keynote instead?

(09:53:47) : edit

16
10
2008

I think I would do a keynote because maybe I could make things move

The teacher discussed the learning conversations after they have been up and running for a few weeks:

The students are responding in quite a variety of ways. Some of the comments are, "Thanks [teacher's name]!" thanks for the feedback. Other kids are thinking about what I am saying and thinking about how it effects them or what they could do about that.

Formative ePortfolios: The Student's Perspective

Knowing what they are learning and how they can achieve success

The students were able to discuss their learning and the purpose behind it. This was especially so for the older year 5/6 students who were clear on what was intended with the learning and how success could be achieved:

...because of the success criteria. For our sun and the stars it is... to compare and contrast and it tells us, we know we have done this, or we did or we didn't make it...
Year 6 student

They're kind of like our goals... that you are trying to reach, to finish your topic. Year 6 student

It is like we have talked about it at the start to know what we are trying to achieve and so we just get on with our work. Year 5 student

Additionally the students could also see how the WALT and success criteria help them with their learning:

Because it gives you guidelines on what you are supposed to learn. Year 6 student

It helps you stay on topic. We know what we are learning about and can find more information about it and what we are learning on and forget about everything else.
Year 6 student

Definitely it helps with... if you are finding information and it doesn't meet up with the success criteria you know not to put it in, rather than wasting your time doing it again.
Year 6 student

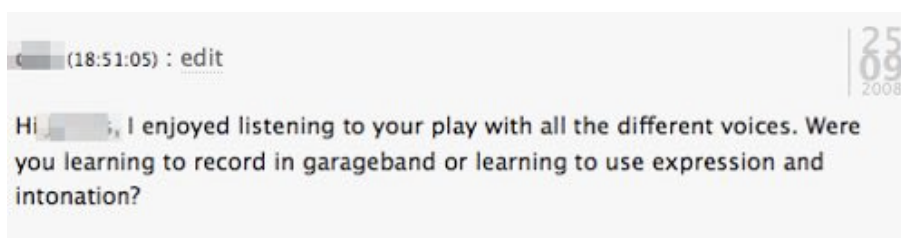
The younger students were not as precise and often described what they were doing rather than what they were learning. This can be seen here within the eportfolios where a student has described the WALT as Record a play in Garageband and the teacher has prompted the student to consider if this was what they were learning to do or whether in fact it was to use expression and intonation.

My fearless play

WALT: record a play in garageband.

My play is about two gots and a vampiyr and allso a moster all trying to scer the browns and here it is.





Another student describes the purpose of their learning which again highlights how some students describe the doing rather than the learning to. Instead of WALT: identify lines of symmetry in irregular shapes, we have:

I was learning how to cut out shapes and make them look the same on both sides.
Year 4 student

This is interesting to note and in itself could provide the basis of ongoing research. When do students differentiate between doing and learning? From a teacher's perspective the difference between the two is clear and can be seen in teacher's planning. Here the WALT is planned (the learning), and then delivered through a context and series of activities (the doing). Younger students often find it difficult to separate the two and often can only do so with prompting.

Should we expect students to articulate both? If they can't and only describe the doing, does it affect their learning and success in achieving the WALT? Is the reason students describe what they are doing related to the issue of the WALT and success criteria being written in child friendly language? Unfortunately the answers to these questions are beyond the scope of this research.

What the evidence did show was that younger students did understand what the WALT and success criteria were and how they contributed to learning:

The WALT tells you what we are learning to and everything. W is we, A is are, L is learning and T is to. WALT, we are learning to. Year 3 student

It (the success criteria) has words on it that you have to... like you've done that, now you have to make sure you do that... Year 4 student

It is saying when you have finished you... Year 3 student

The process involved in developing the learning intention and success criteria demonstrates the collaborative nature of co-construction allowing the students to take ownership of what they were learning. Again, the older students especially recognised and commented on this:

Well [teacher's name] says that, (we are learning to...) and then we go through the rest and as a class decide on the purpose and the success criteria. Year 6 student

We brainstorm it as a class... Year 6 student

We usually make a matrix as a class. So we, as a class, come up with these ideas like, use more formal language. We looked at lots of other brochures and saw like those that were better than others. Year 6 student

The majority of year 3 and 4 students put the development of the success criteria down to the teacher. When asked where the WALT and success criteria came from or how they were developed, most without hesitation said the teacher or that they didn't know. Only two students out of those interviewed hesitantly suggested that they had some input into the process.

Sometimes [Teacher's name] makes us write it. [Teacher's name] might tell us to write it ourselves. Year 3 student

We were maybe like fixing up, [teacher's name] wrote it, and then we had to fix one bit, or decide what was good or bad. Like something that needed fixing. Year 4 student

We know from the evidence discussed earlier that the younger students are involved in the process of co-construction through viewing exemplars, brainstorming features and collectively deciding upon success criteria. With prompting they could recognise the process they went through to develop these but independently could not articulate it.

This confirms the comments made by the year 3 and 4 teacher as she discussed what you would see happening in the room to support assessment for learning. Independently the students may not always remember what they are learning to do and how to be successful at it, but with guidance, prompting and modeling of the process and discussing it with them in context, they do know.

No... they need a lot more talking through it and a lot more modeling. The thinking that you want them to get through, being able to... They are not at that stage where they can remember off the top of their head what they are learning about. It is there and they know what they are learning but unless they are in that learning context at that time, they forget. But whereas if you came in while they were working on it and sat down beside them and said, "What are you learning about?" they would be able to tell you straight up.

Knowing the next steps in their learning and taking action

As has been discussed the eportfolios have provided a wide range of comments and feedback for the students about their learning. These comments, and the learning conversations that are ongoing in the classroom, contribute to improving student achievement and raising self esteem. They also support the cyclic nature of implementing assessment for learning through eportfolios.

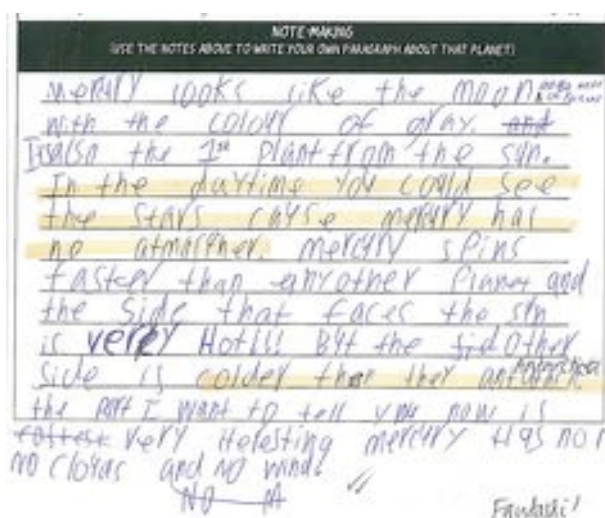
Feedback from the teacher is particularly helpful in guiding students towards achieving success. The students described how they see the teacher's role and some of their strategies:

Checking your work. Making sure it meets the success criteria. Year 5 student

Helping you if you need help and you are stuck on something. Year 6 student

To help you even more to achieve the success criteria. Year 5 student

Sometimes [teacher's name] just sits down with us and tells us and goes through our writing with us. Year 3 student



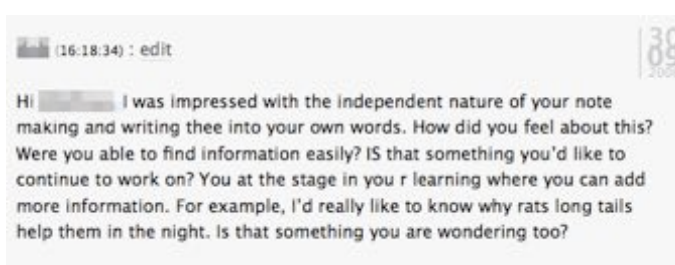
[Teacher's name] checks it for us if there are any mistakes or anything and she goes back and highlights it and we go back and fix it. Year 4 student

The students discussed the benefits of the teacher's comments:

...because then you know what you are going to focus on and that. Year 3 student

I feel like there is something more to achieve. That is is not just, "Oh, I have achieved this, it's all done."

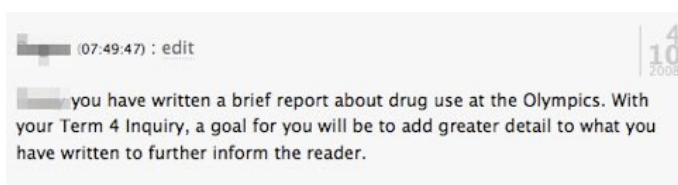
There is always something more to achieve. It can't be perfect really... always something more to achieve. Year 6 student



Because it tells how to improve and what you have done well and stuff. Year 4 student

I like getting feedback, definitely. I really do think it helps. See what I need to improve on really. Year 6 student

So that I can complete the things that [teacher's name] says I need to complete and so I can learn. Year 3 student



Some are bad and some are good. I feel happy about the feedback that people give me so I can fix my work. Year 3 student

It [feedback] is kind of good, I am not here just to learn about my spelling I am here to learn about everything I want to learn about. Year 3 student

...they kind of help me, you know, get better because I trust in them. Year 3 student

Those students that received comments from parents and family members discussed how it helped build a great sense of pride and accomplishment in their learning:

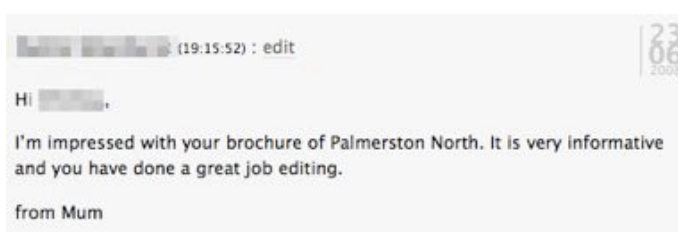
Makes me feel a bit better that they're happy that my brain is being stretched. Year 6 student



It makes me feel like my parents know I have put a lot of effort into my work and I have really tried my best to show the best presentation I can, really getting focused. They can see that. Year 6 student

It makes me think that I have done a good job and that my Mum and Dad are impressed with my learning. Year 4 student

Good because it shows that people have been looking at your work. Year 4 student



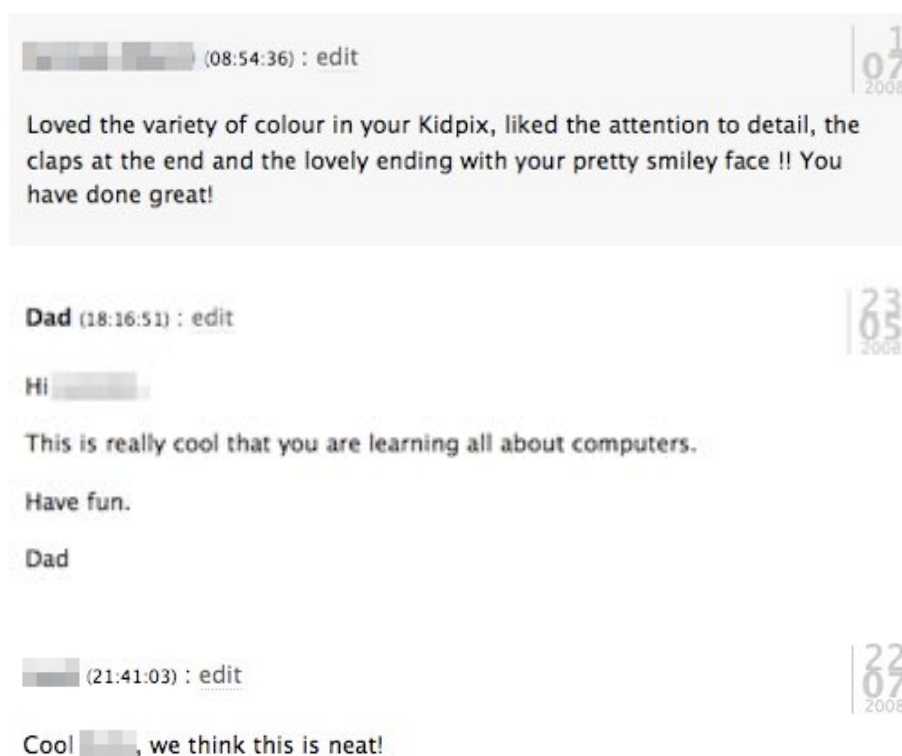
Well I find it really cool because when someone says that you are doing really well you actually feel really good. When I am really happy and not tired, I really concentrate and do heaps more work. Year 4 student

Really happy that she's impressed with my work and everything. Year 6 student

We know that self-esteem and achievement are closely linked as has been discussed in the literature. The students have indicated that the pride and enjoyment they get from parents leaving comments is very satisfying. However the parent comments do not necessarily provide feedback that will promote improvement in future learning. A teacher discusses this point:

Maybe my parents are still at that...touchy, feely, lovey, dovey phase. "Oh yeah, that looks great." You know, they comment on the look of it rather than what is actually in it.

The eportfolios confirm that most feedback does not focus on improving learning or is not directed toward the learning intention or success criteria:



This raises an important point discussed earlier when discussing why parents do or don't leave comments in the eportfolios. The question was asked if parents understand how to comment and give feedback. Feedback is about letting a student know how they have performed against a goal and how to improve on that performance. Generally parent feedback demonstrated they valued their child's learning through the positive nature of the comments but there is room for them to develop more specific and less vague responses and to use prompts to promote improvement in learning.

This is an area where the school can take responsibility in facilitating an understanding of how to give effective feedback. This will benefit not only the commenting in portfolios but contribute to any environment where parents and children engage in discussions about learning. If we want parents to be a key partner in the students knowing the next steps in their learning and taking action, then this is one contributing factor that can be addressed.

Taking action on improving learning was also often self-directed, using the assessment matrix, other prompts such as charts, or with the help of a buddy rather than an adult:

Sometimes, I remember, we do the draft, do the success criteria, then like edit it and everything and then the success criteria/matrix again. Year 6 student

Well on something we did we got our buddy and they got a yellow piece of paper, and then (we did autumn poems) they read your poem and they wrote on the piece of paper what we could improve and what was good and they would stick it on the page. Year 6 student

Sometime we go back and check our work if it makes sense. Year 4 student

We do have a yellow triangle thingy in our literacy book. Plastic sheets for some of the stuff we do and it tells us what we need to do to be finished. Year 4 student

Sometimes other people in the class can help you if they have done it already... Year 3 student

One of the most important aspect of students taking action, goal setting, has previously been discussed but is worth mentioning again here. The students had a great understanding of why they are setting goals and how it can help improve learning:

I try and achieve it most of the time. I look at it every time I come on, just to make sure. Year 6 student

Helpful because if I don't set a goal then I won't really do much at all. Because if I don't have a goal I won't really do much that is neat and tidy or anything like that. Year 4 student

It helps with your learning by not sitting by your friends and not talking so much. Year 4 student

[Without goals] I wouldn't get better at my work. Year 3 student

[They are important because] Otherwise you are going to get nowhere in life, you'll just think, "I'll do that later," or "I'll try that," and you just won't get anything done. Year 5 student

...because then we know what we should achieve at a certain time. Year 5 student

Reflecting on their learning

Understanding what and why you reflect is important for students in order for them to use reflective strategies to improve their learning. Most students saw reflection and self-assessment as being very closely related or in fact one in the same. What is really encouraging is the close relationship between reflections and goal setting that came through in the discussions with the students. Understanding that reflection and self-assessment lead on to new goals and further learning is a really good indicator that the assessment for learning approach contributes to student improvement and an awareness of how they learn.

Here are their thoughts on what it means to reflect and how this helps with learning:

So we can get better at things.

To have a goal to get things done.

Help remember what our goals are and to improve on the first one.

Go back and recheck your work.

We do them because we complete our goals. Like when we were doing it in the first term we had to do this and had to tick. Like we had to complete our goals. Like for 'I can write my notes into my own words,' I got sometimes. So next time I might get a Can Do! or Simple Pimple.

Go back and edit it...

I think like to... we do it a lot and we write what we think was easy and hard and stuff. It's like a self-assessment.

Or could it be like maths and your using a strategy and it's wrong and you go back and try it again?

We all need to know what we need to learn but if [teacher's name] did it for us then we wouldn't know what we needed to learn.

As students are linking reflection to future goals, realising that one leads on the the other, this further demonstrates the value the process has on their learning. The following comment from one student confirms this, even if initially they tried to talk themselves out of it:

I reckon that helps with your learning too... because... actually I might say no, it doesn't 'cause you're actually just telling them how you do on your assessment and what you think you gotta change. It just tells you what you've done in your thing, movie, and what you need to improve on... like fix up some stuff. So... ah... it does help with your learning! Year 3 student

While it was clear that students saw the benefit, they were not always engaged in the process or happy with the frequency in having to complete them as the following conversation between two pupils shows:

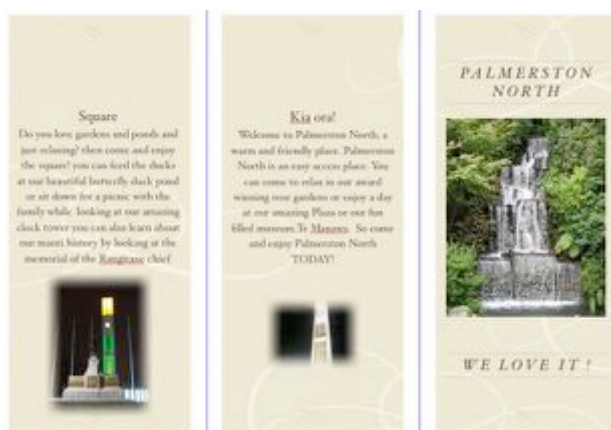
Student 1: Most of the time. I think it kind of gets annoying after a while...like our gym, themes, podcasts...

Student 2: We do it for everything!

Student 3: ...yes it is important but it just gets a bit boring after a while.

Both students agreed on the importance but emphasised that reflections and self-assessments need to be varied and use different media, such as written comments, rubrics/ checklists, videoed discussions and other digitally recorded reflections.

The eportfolios provided ample evidence of students self-assessing and reflecting on their learning in a variety of ways. The weekly reflection activity, commenting and learning conversations previously discussed all demonstrate students engaging in or being prompted to reflect. Contrary to what the two students above mentioned, reflections are varied and use different media although the following eportfolio examples do suggest that these are more frequently text based using a checklist or written reflection.



BROCHURES MATRIX
Co-constructed with the students in 5pm

WALT: use persuasive and descriptive language.
PURPOSE: To inform and persuade.

	NOVICE	PRACTITIONER	EXPERT
Deeper Features	With assistance can use persuasive language.	Evidence of some persuasive language.	Confidently uses persuasive language to encourage reader.
	With assistance can include some adjectives for description.	Uses adjectives to describe objects/ places.	Uses a range of adjectives to interest the reader.
	Through the teacher conference is able to write the brochure so that it can be understood.	Brochure is mostly clear when reading. Some parts are tricky to read/ understand.	Brochure is very clear and easy to read.
	Mostly written in formal language. It has some contractions.	Uses formal language.	Uses formal language and has evidence of a wide vocabulary.
Surface Features	Brochure has some facts.	Brochure is informative.	Brochure is extremely informative. Includes extra/interesting information.
	Little evidence of correct punctuation.	Brochure has most punctuation.	Brochure is correctly punctuated.
Layout	Brochure is written in sentences.	Has attempted to use paragraphs/ bullet points.	Brochure is correctly paragraphed/bulleted.
	High frequency words and topic words have been spell correctly.	Most words are spelt correctly.	All words are spelt correctly.
Layout	Little balance. Text and objects show little thought to placement.	Layout is mostly balanced. Certain aspects are appealing to the audience.	Balanced, attractive layout that is appealing to the audience.

A literacy project making brochures and the matrix where students have assessed themselves against the success criteria.



A recorded audio reflection embedded at the end of a poetry podcast.



A self-recorded movie of a student explaining and reflecting on their understanding of symmetry.



A group reflection after a collaboration inquiry project and presentation. The reflection was completed after viewing the video of themselves presenting and includes individual goals for future presentations.

Senses Reflection

Group Name: Ruggles

Group Members: [Blank]

GROUP WORK:

All group members were involved in making the presentation.

All group members were involved in presenting.

Keynotes were made in emergency.

Group worked well together.

READING WALL:

Information was given from the text.

Information was presented in the class.

PRESENTATION:

Presentation was made in a clear voice.

Notes were easily heard.

Eye contact was made with the audience.

Each group member knew their part of the keynote well.

Check to

Work on	Almost there	Successful
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

GROUP GOALS:

Stage the
Group name
correctly

Look at the
Audience

read the right
note

Speak clearly

know
your
parts



A focused reflection using the What? prompts after viewing a movie of themselves in action including future learning goals.

Gym

WHAT: This week we are learning to do gymnastics. We had to do the mini-tramp, the box, the floor, the beam.

WHAT: I lint that you have to always keep your balance.

NOW WHAT: Now I what to learn how to do a back flip.

MY SELF EVALUATION

WHAT I HAVE ENJOYED MOST ABOUT THIS LEARNING: MAKING THE PRESENTATION

WHAT I FOUND MOST CHALLENGING ABOUT THIS LEARNING: I HAVE FOUND GETTING THE INFORMATION A BIT HARD.

My Self Evaluation

What I have enjoyed most about this learning: I have enjoyed making this Presentation.

What have I found challenging about this learning: it was challenging when I was finding the information, only until Regen found a website.

*Self-evaluations shared at the end of a slide show
or Keynote.*

Self Assessment 1 - Gymnastics

Student's Name: _____ Teacher's Name: _____

TOPIC: PE SKILL DEVELOPMENT - GYMNASICS

I am learning to:

1. Develop and practice the skills of springing, landing, balancing and rotation. 2. Link the skills above to perform basic gymnastic movements using the beam, the box, the mini-trampoline and the floor mats.

	Starting/Out Beginning to...	Moving/Along I can	Taking Off! Very confident at...
<u>Success Criteria:</u>			
I will know I have achieved this when I can			
<u>SPRINGING</u>			
* Spring, using a two foot take off on the mats and beam board.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
* Support myself using my hands and straight arms on the beam when doing a tuck jump on / straddle off / bunny hop / cartwheel.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* Spring with an explosive take - off.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>LANDING</u>			
* Land with feet together and knees slightly bent.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
* Try a variety of dismounts before landing - e.g stretch jump, star jump tuck jump, side jump, U2 turn.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>BALANCING</u>			
Balance and move along the beam trying a variety of movements e.g. walk, step back slide under knees, balance on one foot, single, reach backwards, pivot on toes - turning high or low, skip, leg swings crouch and pivot, knee balance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>ROTATING</u>			
* Rotate my body in a forward roll on an incline (the flat mat), hands flat on mat for support, chin tucked in, push from feet, roll forward.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
* Rotate my body in a backward roll on an incline (the flat mat), hands support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I am learning to:

Various other checklists where students are directly involved in reflecting and commenting on the achievement against the success criteria.

What, So What & Now What?

What?

The New Zealand curriculum *“gives schools the flexibility to design and deliver programmes that will engage all students and offer them appropriate learning pathways.”* Effective pedagogy lays the foundation for designing and implementing this curriculum. As teachers make decisions and use strategies to create supportive learning environments that encourage reflection, goal setting and action, students will be given opportunities to develop the skills required for 21st century learning. Effective pedagogy goes hand in hand with effective assessment. It becomes effective when it benefits student learning through involving them in self and peer assessment and through a clear understanding of the desired outcomes for success in learning.

This research has taken the position that effective pedagogy and assessment can be achieved through a formative approach to teaching and learning. A formative approach, often referred to as assessment for learning, *“is based on the idea that pupils will improve most if they understand the aim of their learning, where they are in relation to this aim and how they can achieve the aim (or close the gap in their knowledge)”* (QCA, 2005) and has been shown to be one of the most powerful ways to improve student learning.

The teaching and learning environment observed in this research reinforced the necessary elements and characteristics of assessment for learning. Displayed learning shows a description of the learning intention and success criteria. Exemplars can be seen showing quality learning and assessment matrices and charts visibly guide the students. The teachers demonstrate and guide formative processes in everyday classroom conversation and practice. They prompt, question and guide students through recognising quality learning, co-constructing success criteria and providing feedback that leads to next steps and improvements in learning. Reflection and goal setting is emphasised as a key factor in allowing students to take ownership and control of their learning.

The student involvement in this process is clear. They understand the importance of the learning intention and how the success criteria guides their learning. Older students especially can accurately describe how they collaboratively created the success criteria and assessment rubrics after looking at exemplars of quality learning. They use feedback to improve and help reach the next steps in their learning. The students self-assess, actively reflect on a regular basis and set goals to assist in focused and self-managed learning.

The New Zealand curriculum also describes elearning and how it opens up new possibilities for engaging learners. This research has used the ubiquitous nature of the web to connect together students, teachers, parents and other stakeholders in celebrating not only achievements in learning but also in demonstrating the process of learning and facilitating feedback to improve student achievement. The engaging nature of multimedia and the collaborative benefits of web 2.0 allow learning to be shared as it was intended and with the authenticity of the student voice.

So What?

The aim of this project was to answer the question, What are the formative benefits of eportfolios? In answering this question we need to remind ourselves exactly what the characteristics of formative assessment are and concisely discuss how these are relevant and to what degree they are demonstrated in the eportfolios. The Assessment Reform Group (1999), describes seven key elements.

1. It is embedded in a view of teaching and learning of which it is an essential part.

It was clear that in the two classrooms used for this project, assessment for learning was not an add on or an after thought. Every decision made has the improvement of student learning at the centre of its purpose. The classroom environments, the learning conversations and the students learning provides ongoing evidence of how formative practice was integral to the teaching and learning in the classrooms.

How do the eportfolios support or demonstrate this?

The eportfolio itself does not contribute to the extent at which formative practice is embedded into teaching and learning. This is influenced by the teacher and their planning and also by the school's direction and strategic decisions.

However the eportfolio has the ability to support formative processes as it is embedded into the teaching and learning process. The two case studies have shown that the eportfolios are increasingly being utilised in this way. During the transitional phase of students and teachers coming to terms with a new eportfolio software package the full extent and ease at how the eportfolio can compliment and support the formative process was not being fully realised. This was not unexpected. Over time, as teachers have become more knowledgeable and confident with the eportfolio tool, their ability to integrate the features into the learning process has increased. This does not simply mean that the formative process of learning is shown in the eportfolio but that the formative teaching and learning process uses the features of the eportfolio to achieve the desired outcomes.

2. It involves sharing learning goals with pupils. &

3. It aims to help pupils to know and to recognise the standards they are aiming for.

The students were involved in the process of constructing the success criteria. Exemplars were used for students to explore and discuss models of quality learning. Daily discussions, class reflections and sharing student learning allowed students to focus and work towards achieving new goals. Students were informed about the purpose of their learning and they could knowledgeably discuss their learning in context. Displays, flip charts, mobiles, and other prompts were visible in the classrooms. Teachers guide and prompt students continuously with questions and encouragement.

How do the eportfolios support or demonstrate this?

The eportfolios in this project did not directly support the sharing of learning goals with the students nor were they intended to. This is not a negative point but a recognition that the

eportfolio is not the appropriate or best tool for this purpose. The observed classroom environments, teacher initiated discussions and the discussions between students allowed all learners to be involved in the process of recognising the learning they were aiming to achieve. Essentially the eportfolio is a tool for the individual to demonstrate and improve their learning and while other stakeholders are drawn into this process, it cannot yet replicate or replace the value of face to face discussion and the collective sharing of ideas in a classroom environment.

The eportfolios did note the goals and intentions of the learning through the WALT being displayed with examples but there is no direct involvement of the eportfolio in the process of constructing or sharing them. However by recording the learning intention, the eportfolios facilitate the sharing of the learning goals with parents and other interested parties.

4. It involves pupils in self-assessment.

Self-assessment and reflection were used throughout all aspects of classroom teaching and learning. There were formal reflective and self-assessment activities engaging students in critically asking themselves questions about the progress in their learning and if they were achieving success. Student goal setting was an integral component and an outcome of all student self-assessment.

How do the eportfolios support or demonstrate this?

The majority of all learning artifacts in the eportfolios were accompanied by a self-assessment or reflective activity. These came in a variety of forms including highlighted matrices, written comments, checklists, video or audio comments or a combination of any of these strategies. The weekly reflection activity using the What? prompts continually gave students the opportunity to evaluate their learning and set goals to improve.

The eportfolio itself did not directly make this happen. While it provided the platform to present these self-assessments to teachers and parents, they could just have easily been typed in a document, saved to a DVD or printed off. What the eportfolio has provided is the ability to share the reflections, and receive responses and feedback, from a wider audience than is possible with other technology.

This additionally highlights the developmental phase that the eportfolios are going through. Using the features of the eportfolio tool to record reflections such as in the comment boxes, has increased noticeably over the time of the research. As teachers move away from text based reflective activities the power of the student voice will be increasingly evident in multimedia reflections.

5. It provides feedback which leads to pupils recognising their next steps and how to take them.

The case studies identified ongoing feedback to students, both informal and formal, happening constantly in the classrooms. Questioning, discussing, highlighting, conferencing and commenting on learning were evident to prompt and suggest ways to improve learning and achieve success. This was happening in one on one situations, small groups or as a

class working together critiquing examples of learning that draw attention back to the purpose of the learning and how to get there.

How do the eportfolios support or demonstrate this?

One of the main benefits of the eportfolio is how it can provide feedback on learning or thoughts that have been posted. As has been mentioned the feedback is not limited to the teacher but includes parents, friends, relatives and other people in the student's personal network. The eportfolios demonstrated that this was happening and proving a convenient platform to provide feedback especially for teachers. It is developing from simple one off feedback comments to questioning and prompting to which the student responded creating an ongoing learning conversation.

The feedback on learning received from parents has been disappointing highlighting an area for development. Not only was there a noticeable lack of comments from some parents but comments often lacked specific and focused feedback related to the learning. This was no fault of the eportfolio tool which made commenting very easy and accessible.

This could be said for some of the comments from teachers too which at times lacked reference to the success criteria or providing the next steps in learning. This could be because teacher feedback usually referred to completed learning rather than as part of the process. It needs to be acknowledged too that the feedback that does appear in the eportfolios is only a small fraction of the previously described observed feedback.

What was clear was that the eportfolio provided an easy and accessible location to provide feedback on learning. Users can read previous comments and build up a picture of the learner over time and how they have responded to suggestions and guidance in improving their learning.

6. It is underpinned by confidence that every student can improve.

The classes involved in the research were always a buzz of activity with students actively focused on their learning. Students across the ability groups were being catered for with additional specific teaching or being extended through open-ended tasks and inquiry. The individuality of the students was allowed to be demonstrated through their learning with descriptive rather than prescriptive learning activities. Student success was celebrated in a variety of ways contributing to intrinsically motivated students who knew they were supported in their learning and in achieving their learning goals.

How do the eportfolios support or demonstrate this?

The eportfolios played no direct part in providing this welcoming and rich learning environment. This can be directly credited to the teachers and the actions and strategies they have implemented to manage the learning of their students. The high value they have placed on students being independent and self-managing their learning allowed students to further develop and make improvements.

The eportfolios have contributed to this in an indirect fashion. They have allowed comments from parents, teachers and caregivers to celebrate student achievement and highlight how well a student has done. This has boosted confidence and pride in the student's learning and contributed to the student's positive self-esteem. The eportfolios themselves have also engaged the students in their learning. From reading the literature, high self-esteem, motivated and engaged students are factors that lead on to improved student learning and achievement.

7. It involves both teacher and pupils reviewing and reflecting on assessment data.

This research did not investigate how assessment data, that gathered from standardised tests such as the STAR or PAT, was used or reviewed with the pupils.

So what has this shown? The formative benefits of the eportfolios, when compared to the Assessment Reform Group's indicators, are the ease at which they provide a platform for commenting and feedback to improve student learning, and how they demonstrate and encourage reflection and self-assessment in students. The eportfolios support and in some cases enhance all other characteristics of assessment for learning but in themselves don't initiate or direct it.

The outcomes have shown that before an eportfolio can be considered formative and be embedded into the learning process, the role of the teacher in establishing an environment rich in assessment for learning must come first. Only with the presence and use of the characteristics of assessment for learning can we then take the next step to integrating the eportfolio into the process.

However even with these characteristics in place, the resulting eportfolios may not immediately reflect the formative nature of the classroom until the teacher has a thorough understanding of how the technology can best support the learning process.

Now What?

While the research has been completed the eportfolios are ongoing and continue to be used to share and support learning. The teachers involved in the project are continually developing and refining their knowledge of how best to do this.

While there have been many successes both in how the eportfolios are supporting assessment for learning and the benefits and ease at which WordPress has been implemented, the research has also demonstrated that there are some areas that need to be addressed before the full potential of the online eportfolios can be utilised. These improvements are not necessarily related to the formative potential of the eportfolios but to the general benefit of the online method of sharing learning.

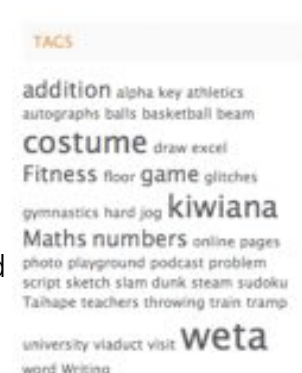
The issue of removing passwords from the eportfolios is one way to improve the collaborative and social learning potential of the eportfolios. Password protecting the eportfolios prevents guests from accessing the site and therefore from leaving comments and providing feedback on a student's learning. The audience for a student's learning would immediately increase from half a dozen people to millions. Web 2.0 is all about collaborating, networking, connecting and sharing. Removing passwords allows this to happen. RSS feeds would not be blocked. Teachers and parents could subscribe to a student's eportfolio feed, receiving notifications every time new learning and comments are posted.



This would require educating parents about why this change could benefit student learning. Their concerns that opening eportfolios to the public would lead to Internet initiated crimes need to be discussed openly and informed by research to remove some of the misconceptions about the dangers of the Internet. Teachers would also need to monitor more closely the content of the eportfolios to ensure that anything that is extremely personal is posted privately. The final choice will always be with the parent and the child as to whether the site is opened up but the decision should be made after being informed of all the potential positive and negative outcomes.



A feature of WordPress that can be better utilised in the eportfolios is the categories and tags feature. Currently posts are uncategorised or published under the default category and have no attached tags. Categories and tags for blogs are the equivalent of the contents and index pages in a book. The categories are the broad group the blog post fits into and the tags are the keywords associated with the content. Categories and tags allow users to quickly locate learning and search for learning and comments filed under specific headings. For example if you wanted to view all of a student's numeracy post, you could click on the numeracy category and be shown a list of just those entries. Similarly, by clicking a multiplication tag you would see all of the posts containing a reference to multiplication. If students begin an eportfolio at year 1 and continue it right



through to year 6 and beyond, it will be increasingly difficult to locate and search for learning without categories and tags being used.

Perhaps the most discussed element of the eportfolios that didn't meet the expectations was the involvement of parents in commenting and providing quality feedback on their child's learning. It is hard to pinpoint the reason for this however it has been suggested that parents need to be guided through the process of how to comment on their child's learning. This is not referring to the technical knowledge required but to the process of celebrating achievement and prompting children on how they could improve. The first step in this process is to get all parents commenting something in the eportfolios. It is quite disheartening when teachers see no evidence of parent involvement in this area of learning. Any comment is a step in the right direction and as parents feel more comfortable and see the benefit a simple comment can do to their child, it may become more regular and focused. Running workshops for parents is a possibility but the best way is use the students as teachers and as they share their learning with their parents they can suggest and model leaving comments that lead on to future learning.

Despite these issues and areas for improvement the eportfolios have been very successful. The teachers involved in the project shudder at the thought of returning to iWeb or even the book based portfolios. While the eportfolios themselves might not always support formative assessment, they have clearly contributed to improved learning and understanding of the learning process. This is best left to one of the teachers to explain further:

These eportfolios I think, assisted a lot with their thinking and understanding of learning and the process of learning, because it has guided their thoughts of how learning is achieved.

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